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MONTHLY BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

JOHN PRICE JACKSON, Commissioner.

A BULLETIN OF INFORMATION FOR THE PUBLIC

JANUARY, 1917

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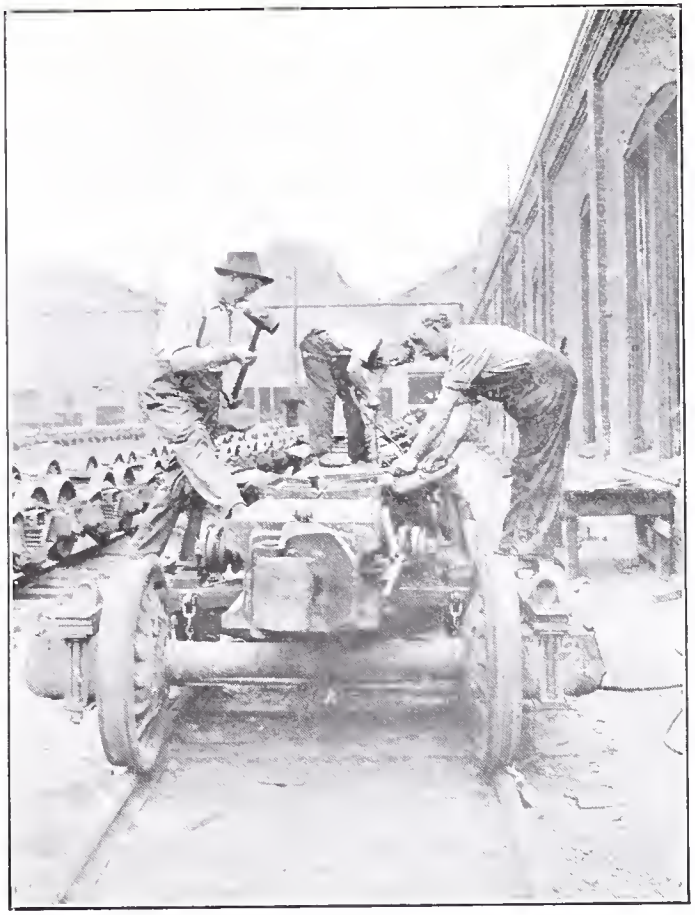

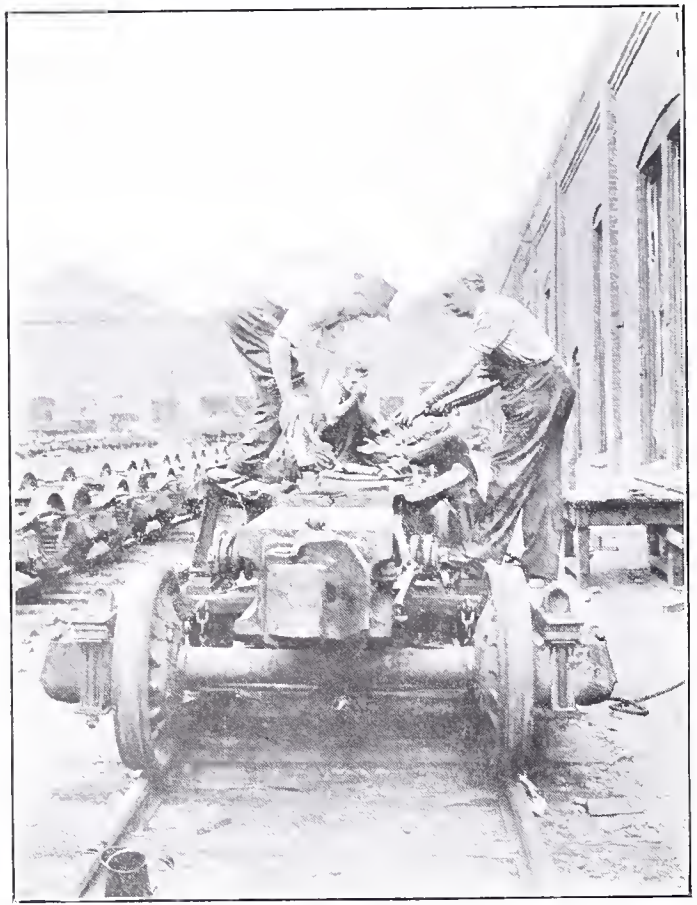

THOUGHTFULNESS ON THE PART OF EMPLOYES CAN PREVENT MANY INDUSTRIAL ACCIDENTS.

If the workman operating the air hammer, in the above photograph, had kept his goggles over his eyes, the flying rivet head would not have endangered his sight. If the workmen cutting rivets had not used "mushroomed" tools the hammerman's legs would not have been injured by the flying fragment. Workmen cutting rivets should under no conditions make the cut in the direction of other workmen unless a pan or piece of burlap is used to catch the severed rivet head.

INDUSTRIAL FATIGUE—CAUSES AND EFFECTS.

The industrial manufacturer usually desires to obtain the greatest product possible from this plant in order to reduce the ratio of overhead operating expense. Sometimes excessive production is required on account of the seasonal nature of the occupation, or a special demand for the product. It is a very common and practical study of the present industrial day to determine just how much production can be obtained from a good machine, building or apparatus, and the relation of that amount of production to the cost of the labor employed. In making such studies, the product possible from a machine or engine is always kept within the limit of the strength of the machine or apparatus, in order that the materials composing them may not become over-fatigued, strained, and broken. A machine may make cuts at a size and at a speed way beyond the normal studied capacity, but it is shown that using a machine in this manner invariably results in breakage, strains, or at least, large repair bills.

Probably the most valuable equipment of any industrial plant is an efficient, right-spirited, responsible organization of human workers. For the sake of prosperity of the individual worker and of the plant these human workers, as in the case of inanimate machines, should be used in a way which will enable them to produce properly the greatest output. By such use, the individual worker can win high wages, the industrial manager cuts down his ratio of overhead operating expenses, and adds, therefore, to the profits of his concern. But, in making the study of the best use of the human elements, even more care and brain skill is required than in dealing with the material equipment of apparatus and machinery. The human being over-fatigued will break or be strained much more readily than is ordinarily the case with an inanimate machine, as his construction is most delicate and is susceptible to the conditions of his environment and activities. Therefore, it is most essential that very great care be given that he be placed upon work for which he is fitted by mental and physical capacity, and that his production efforts do not exceed the elastic limit. The establishments of this country which have given a relatively large part of attention to this, probably the most important department of their business, have usually proved pre-eminently successful. The result means the retention of a force which grows constantly stronger and more capable. On the other hand, many establishments which have given

very careful study to the inanimate elements of the organization, such as machinery and apparatus, but have neglected to give the study requisite to the human elements have over-burdened the latter to such an extent that they have, therefore, over-fatigued and overstrained them, and have also failed to make the best use of the material at hand by illy disposing its units to the best advantage. The result of such a condition is that the mental attitude of the workers is not desirable, and the personnel of the organization is continuously changing and serious economic losses occur to both the employers and employes.

Entrance of Machinery in Manufacture.

In the evolution of society from the handicraft stage to the modern industrial period, the application of the great mechanical inventions of the latter part of the eighteenth century to the use of power manufacture, brought about far-reaching and rapid changes in our industrial life and ushered in the era of industrial revolution. The slow-going methods of the handicraft stage were replaced by intricate and expensive machinery, which made it necessary for workmen to assemble in factories for work. Hence arose the factory system.

The introduction of machinery has cheapened the production of many useful articles and placed more of them within the reach of a large number of people; but it has not always lightened the labor, and has complicated the industrial situation by increasing the hazards to health. The vast speeds of machinery, the complexity of many processes, piecework, monotonous applications and mechanical rhythms,—all demand close attention from the workers and impose on them a distinct strain. The speeding up of machinery often causes serious accidents because of the difficult nature of the work and the vigor with which it is sustained; these conditions induce chronic fatigue and favor the development of a poor physique especially among female workers.

Fatigue a Hazard of Occupation.

Fatigue is a hazard of occupation, which is more widespread than any other we have here considered; it affects the largest number of workers, not only those employed in certain industries in which fatigue factors predominate, but all wage earners,—men, women or children, who are taxed beyond their physical capabilities by excessive work. It is one of the most common causes of industrial deficiency.

Fatigue is defined by Dr. Howell as a more or less complete loss of irritability and contractility in the muscle, brought on by functional

activity. It is a result of activity which manifests itself by a diminished capacity for work. To perform any kind of work, one requires a complex neuromuscular apparatus, the components of which must operate through adjustment and coordination. These components consist, first of the complex mechanisms of the brain and spinal cord, which initiate and distribute the various impulses to action; second, of the peripheral nerves, the carriers of impulse to the muscles; and third of the skeletal muscles, which by contracting convert these impulses into movements of various kinds and thus perform actual work.

The sensation of fatigue is caused by the accumulation of the waste products of muscular activity in the system and by the exhaustion of the energizing material. When it rests in the body, a muscle absorbs oxygen from the blood, stores up glycogen and fat, and throws off small amounts of carbonic acid. During activity, however, the nutrition of the muscle undergoes marked changes. A larger quantity of oxygen is absorbed, considerable carbonic acid is thrown off and the glycogen is broken up into carbon dioxide, water, and sarcolactic acid. Heat is also generated and the contracting muscle becomes acid in reaction.

The formation of these acid waste products inhibits the responsiveness of the muscle to stimulation, and thus acts as a protection from complete exhaustion. If a sufficient time interval is allowed between successive contractions, no fatigue signs appear; reaction soon sets in through a fresh supply of energizing material. After prolonged activity, however, during which the time interval between the successive contractions has been insufficient to allow the circulation to neutralize and remove the waste products, complete fatigue ensues; then a long time is required for the muscles to make a complete recovery and further efforts at contraction greatly prolong the period of complete recovery. Hence straining a fatigued muscle is injurious. That these waste products circulating in the blood cause fatigue can be proved by injecting some of the blood from a fatigued animal into a healthy one, when in the latter, fatigue signs will gradually appear.

Under the influence of rest and sleep the factors of fatigue pass off; vigor and strength return. During this period of relaxation the functions of the muscles are restored and waste products eliminated.

An Interesting Fatigue Theory.

An interesting theory as to the cause of fatigue was suggested by Weichert in 1904. He believes that fatigue is a toxaemia, resulting from a toxic substance found in the body and that the injurious factors of this toxin, like that of certain infections, can be over-

come by an antitoxin. In support of this theory Woff-Eissner succeeded in establishing an immunity to fatigue in animals, by injecting into them repeated small doses of a fatigue toxin obtained from overworked animals. The toxin is supposed to reside in the muscle and the antitoxin in the blood.

It is commonly known that men who are new at their work experience a sensation of fatigue sooner than those inured to their occupation; and the trained athlete is capable of greater endurance, without feeling tired, than the untrained man. Getting accustomed to one's work which is a process of training, is supposed to depend upon the development of this fatigue antitoxin.

In one trained by degrees to hard work, the heart gradually brings itself into conformity with the requirements of the circulation by increasing its musculature through a process of hypertrophy. This compensatory condition will be maintained as long as the worker lives within the limitation of the physical strength. Sooner or later, however, irregular and vicious habits of working and living creep stealthily into the life of the worker, the natural defenses of the body against fatigue are broken down, and the victim becomes a prey to the ill effects resulting from faulty metabolism. The retention in the body of toxic substances resulting from fatigue set up degenerative changes primarily in the blood vessels, and secondarily in the various organs. These retrograde changes induce premature senility. It has been truly said that a man is as old as his arteries.

Causes Contributing to Fatigue.

Fatigue arises from long hours at laborious work, monotonous applications, excessively rapid piecework, speeding up, constant standing, faulty positions of the body, seats without back supports, jarring processes, constant straining, deafening noises and straining of the eyes. Fatigue, therefore, is a common cause of disability in the industries, and predisposes to many diseases.

In mild cases, it may manifest itself by a tired feeling, headache, stiff joints, pains and aches in the muscles; in more severe cases, there occur muscular cramps, persistent backache, neuralgia, flatfoot, varicose veins and spinal deformities.

Chronic fatigue predisposes to general weakness, paralysis of overused parts of the body and nervous breakdowns. Prolonged fatigue leads to degenerative disease of the heart, circulation and kidneys, which when once incited, runs a progressive course and favors the early onset of senility.

Fatigue conditions in industry are more disastrous to young persons than to adults. During early adolescence, the function of growth is paramount to all other functions of the body. There is a

growing together not only in stature, but also in compactness, which results in the complete physical development of the adult. Fatigue toxins stunt the growth, and inferior bodily development results, with more or less deformity, weak constitution and marked susceptibility to chronice diseases.

Means of Avoiding Excessive Fatigue.

In order to avoid excessive fatigue, the people should endeavor to follow regular and temperate habits of living; they should be zealous about their personal cleanliness; they should obtain an adequate supply of wholesome food, and they should sleep in well ventilated rooms. The extent to which these salutary conditions will prevail in the homes of the people depends upon the personal habits and education of the individual.

In factories and workshops, fatigue may be materially lessened by making the conditions under which work is performed as conducive to health as possible. For the attainment of this end the following remedial measures are suggested:

Reasonable working hours, proportional to the nature of the work and its fatiguing character; variations in the character of employment at monotonous applications; a proper amount of fresh air controlled by a system of ventilation through which dust, gases or fumes may be withdrawn from the environment of the worker; efficient illumination to prevent strain to the eyes and the resultant danger of accidents; proper temperature-humidity conditions; seats for employes, especially females; lunch periods, long enough to allow physical relaxation; suitable dressing rooms, to afford an opportunity for change of clothing in certain occupations, and for retirement in case of sickness. Upon the young, tasks should be lightly imposed, commensurate with their strength, in order to conserve their physical energies for the paramount function of growth and to avoid exhaustion, which is disastrous to their vitality.

MORE THAN 2,500 WORKERS WERE KILLED AND 250,000 OTHERS INJURED IN PENNSYLVANIA INDUSTRIAL ACCIDENTS DURING 1916, ACCORDING TO REPORTS MADE TO THE BUREAU OF STATISTICS AND INFORMATION.

Eight deaths daily was the approximate average toll of industrial accidents in Pennsylvania during 1916. This daily average is exclusive of Sundays and holidays. Reports made to the Bureau of Statistics and Information, up to January 1, show that the total of

killed and injured workers, for the year, in Pennsylvania will exceed the staggering number of 250,000. Of that number of workers more than 2,500 died from their injuries.

The records for the year show that, on an average, approximately 215 industrial workers were killed every month as a result of industrial accidents in the State and 20,000 others were injured.

The greatest number of fatal accidents occurred during the month of October when 287 workers were killed. Commissioner Jackson has issued the following statement appealing to both employers and employes for the inauguration of a new era of safety in 1917:—

"The Department of Labor and Industry, during the coming year, will continue, with renewed efforts, its work to reduce the hazards to life and health in industry.

"Employers can aid greatly in this work by promptly installing safeguards at danger points, by giving assistance in the organization of safety committees in the shops and by establishing safety departments in the larger plants. Employers can also aid by promoting Americanization of non-English speaking workmen so that accidents may not result from inability of foreign workers to understand orders given in English.

"Employes are urged to be most cautious and careful in their work, to guard against any careless movement that might cause injury to themselves or fellow-workers. Employes are also urged to use every safety appliance provided by the employers especially goggles. Employes can also aid in reducing the tremendous casualty toll by giving thought and attention to the formation of safety committees in every shop to co-operate with the management in advancing safe practices."

The accident toll for 1916, by months, as compiled from reports, received up to January 1, 1917, is as follows:

Accident Toll for 1916, by Months.

Month	Killed	Killed and Injured	Daily Average
January,	129	13,465	518
February,	222	24,475	979
March,	239	26,971	999
April,	169	18,010	720
May,	195	18,379	735
June,	182	19,939	767
July,	200	21,028	841
August,	246	23,817	882
September,	245	22,194	888
October,	287	21,565	829
November,	220	20,378	784
December,	253	21,267	850
Totals,	2,587	251,488	827
Monthly Average,	215	20,957	

PAYMENTS AGGREGATING $4,224,875.43 WILL BE MADE TO INJURED WORKERS AND THEIR DEPENDENTS FOR INDUSTRIAL ACCIDENTS IN 1916, ACCORDING TO RECORDS OF THE BUREAU OF WORKMEN'S COMPENSATION COMPILED JANUARY 1, 1917.

Records of the Bureau of Workmen's Compensation on January 1, 1917, indicated that, during the first year of workmen's compensation in Pennsylvania, payments aggregating $4,224,875.43 will be made to injured workers, or their dependents, as a result of industrial accidents in Pennsylvania. That aggregate amount of payment will be made for 54,500 agreements, between injured workers and their employers, approved in the Compensation Bureau during the year.

The total payments include $147,281.54 paid during 1916, to widows, children and other dependents of workers fatally injured during the year. It also includes $2,817,974.18 remaining to be paid to those dependents, during varying terms of years, to carry the death claims to maturity.

The annual compensation total also includes $1,259,619.71 paid to workers injured during the year and disabled for more than 14 days. The grand total does not, however, include the amounts that will be required to carry pending disability claims to maturity as the extent of disability can be estimated only in rare cases. The total also does not include medical expenses.

There were 1,241 agreements approved for compensation for fatal cases during the year and 53,259 agreements for disability cases. The average cost in compensation for each fatal case was $2,388.60 and the average cost for each disability case, up to January 1, 1917, was $23.11.

The Bureau records show that 1,730 claim petitions for compensation were filed and referred to referees. Of this number 479 resulted in awards to the claimants; 220 were disallowed; 665 did not come to a hearing, or were dismissed by reason of agreements being perfected; 44 were withdrawn and 322 cases remain open for adjudication by the referees.

While the total number of workers killed in industrial accidents during 1916 exceeds 2,500, according to reports made by industrial plants to the Bureau of Statistics and Information, the number of agreements for fatal cases approved in the Compensation Bureau during 1916, is 1,241 mainly for the reasons that some of the re-

ported fatal accidents were not compensable under the law, some are pending and others are railroad workers killed in operations alleged to involve interstate commerce and thus claimed to be not compensable under the Pennsylvania Act. The status of these interstate commerce cases will be determined by a decision of the higher courts.

PLEA FOR AMERICANIZATION OF PENNSYLVANIA'S INDUSTRIES AND LABOR UNIONS.

A plea for the Americanization of Pennsylvania's industries and labor unions was made recently by Commissioner John Price Jackson in circular letters sent to heads of industrial plants and to officials of labor organizations, in all sections of the State. This action was taken in the effort to promote attendance at night schools and at other educational classes by non-English speaking workmen in Pennsylvania. Census reports indicate that there are almost 500,000 such workers in Pennsylvania.

Commissioner Jackson pointed out, in his appeal to heads of industrial plants, that every non-English speaking employe means:—more accidents, increased cost of supervision and lower industrial efficiency. He contended that accident records show that many workmen are injured through failure to understand orders and instructions given in English by foremen. He suggested that every effort be made, by heads of industries, to promote education in English among foreign workmen if it even is necessary to give wage bonuses or to establish factory classes.

To the labor unions the Commissioner pointed out that the workman who does not understand English may do the wrong thing following an order he does not understand, and may cause injury not only to himself but also to a fellow employe. The Commissioner further asserted that such a workman makes an unprepared member of a union because he does not usually understand the proceedings and therefore is not always able to act intelligently for the welfare of the union.

Commissioner Jackson has recently been appointed chairman of a National Committee of One Hundred for Americanization, which includes Nathan C. Schaeffer of the Pennsylvania Department of Public Instruction and Mrs. Samuel Semple of the Pennsylvania Industrial Board. This committee, named by the United States Commissioner of Education, P. P. Claxton, includes in its personnel educators of nation-wide prominence.

COMBINING AMERICANIZATION WITH SAFETY FIRST IN THE PLANT OF THE AMERICAN CAR AND FOUNDRY COMPANY AT BERWICK, PENNA.*

When thirty declarations of intention to become American citizens are soon filed with prothonotary John F. Watson, as there soon will be, there will be afforded concrete evidence of "Safety First" work in the Berwick plant of the American Car & Foundry Company, under the direction of W. E. Jarrard. That, however, is merely incidental to the unique "Safety First" campaign which this important department of Berwick's giant industry has launched.

With the "Safety First" work, in the direct sense, the public is more or less familiar but there are few who realize that to make the campaign for a greater regard to safety while at work secure the maximum results with the foreign-speaking workmen there must be even more done than to supply safety appliances to the plant machinery, to teach the men to take care of themselves and to supply them with goggles to protect their eyes.

Knowledge Begets Patriotism.

The instruction of the American workman is comparatively simple, and it is to overcome the handicap under which the foreign-speaking workman labors that the night school for foreigners has been started. The fact is realized that if the foreigner has an understanding of English he is in a position to the better take care of himself, but the work already done has proved that an understanding of English always brings a keener appreciation of American citizenship. So that, while there is being accomplished the particular aim of the Safety First department those back of it have the satisfaction of knowing that they are helping in the betterment of conditions and in the improvement of the people with whom they labor.

A Large Enrollment.

The night class work was started by Mr. Jarrard in the Schlanger Hall, West Berwick, October 10, 11 and 12, 1916, with a membership of 205 foreigners in the various classes and with fifteen or twenty other foreigners attending the classes and expecting to become members at a later date. The removal of a few from the town has brought a slight decrease in the membership until at the present time there are 182 members enrolled, as follows: Italian class, grade C, Frank A. Ross, teacher, enrollment 42; Italian class, grade B, Harry

*Reprinted from the Bloomsburg Morning Press of December 16, 1916.

Mitt, teacher, enrollment, 49; Italian class, grade A, W. C. Delong, teacher, enrollment, 35; Russian, Hungarian, Polish, Slavish, etc., class, grade A, W. C. Delong, teacher, total enrollment, 49; Russian, Hungarian, Polish, Slavish, etc., class, grade B, Joseph Snelberger, teacher, enrollment, 7.

So rapidly did the work grow that Schlanger's hall soon proved too small to accommodate the classes and the Y. M. C. A. of Berwick, which has stood by the campaign in directing the classes in English, rented two rooms of the West Berwick high school, with all facilities, including janitor. There the classes are conducted five nights each week with the results already far beyond the expectation of Mr. Jarrard, safety inspector for the American Car & Foundry Company.

Speaking yesterday of the work that is being done Mr. Jarrard said: "The campaign has for its purpose industrial education to increase safety sanitation and to improve the method of living. And what is especially gratifying is the fact that we find the foreign workmen join as enthusiastically in making this work a success as they have joined in following the work of this department in the past.

Educational Moving Pictures.

"It is our plan to show educational moving pictures one week out of each month, beginning January 1, and continuing until warm weather. The films we will introduce are such as these: 'An American in the Making,' 'The Man He Might Have Been.' 'The Workman's Lesson,' 'The Crime of Carlessness,' 'Safe and Unsafe Practices,' 'Steve Hill's Awakening,' 'The House That Jack Built,' 'The Right and Wrong Practices in Railroads,' and 'The Danger of the Streets.'

"It was when we were planning this campaign," continued Mr. Jarrard, "that we found there was a strong sentiment developed among the foreign workmen to learn to speak, understand, read and write the English language, and events have proved that we judged that sentiment correctly.

"The progress the men make in their work is amazing," he went on to say, explaining that it is so rapid because of their earnest work that he anticipates that a foreigner, without any knowledge of English, when he begins the term, can make himself well understood by the close of the term. The "pupils" are graded, and those further advanced know a little English, can speak brokenly, and can read and write a little in English. For these there is more advanced work.

Earnest Pupils These.

There is possibly no school in the county in which there is as much earnestness, for every last one of those attending is eager to grasp an understanding of the English language. With the beginners, well known words that are frequently used by the workmen are the first to be taught. These are pronounced by the teachers, and if it is possible to have objects close at hand they are indicated by the teacher with the name of the object. Some of the more advanced pupils are reading out of readers, and the work is showing results that have encouraged those back of it to look to its becoming a permanent part of the "Safety First" work. At the present it requires all of Mr. Jarrard's nights but he has found pleasure in the real joy known to those whose ambition is to help their fellow men.

Amazing Accident Decrease.

While this is the new feature of the year in the "Safety First" work in the Berwick plant, the same thoroughness which has characterized the work in the various departments since it was inaugurated July 1, 1913, still obtains. Statistics are dry, but these show just what the promulgation of the "Safety First" idea has done:

July 1, to December 31, 1913.

Monthly average employed in Berwick district, ...	5,632
Monthly average accidents per 1,000, ...	52
Monthly average accidents listed as serious per 1,000, ...	17

January 1 to July 1, 1916.

Monthly average employed in Berwick district, ...	5,639
Monthly average accidents per 1,000, ...	35
Monthly average accidents listed as serious per 1,000, ...	3

The figures here given are very conservative as at least 25 per cent. of the minor injuries were not reported during the first six months of the safety campaign. Yet notwithstanding that fact the statistics show these astonishing figures:

Percentage of decrease in total accidents per 1,000 employes,	33
Percentage of decrease in accidents, listed as serious, per 1,000 employes, ...	82

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Equally as astonishing is the fact that during the three years since the department was instituted the company has had but two fatalities in the Berwick plant. Permanent injuries are almost a thing of the past and injuries involving a loss of twenty days or more are rare.

Elimination of Booze.

There's another side of this "Safety First" work that has possibly been the biggest single factor in the elimination of accidents, and that has been the elimination of boozing employes.

Asked what his opinion was as to the part drink has among the employes and the effect its elimination has figured in the reduction of the percentage of accidents, Mr. Jarrard replied:

"One of the most dangerous influences at work against the efficiency and safety of workmen is the use of alcoholic liquors. As in the case of fatigue I believe alcohol even when used moderately distorts the nerve cells and weakens them to such an extent that the very muscles which are most vital in the performance of the daily duties are gradually rendered incapable of ready response and the individual, bereft of self-control, is placed in a position of constant danger to himself and to others. Therefore, one of the progressive steps that this district of the company has taken to safeguard the lives of its workmen and to maintain a high standard of efficiency has been its campaign against 'booze.' Under date of January 17th, 1914, the following notice was issued from the office of the General Superintendent:

" 'To All Concerned:—

'Workmen frequenting drinking places coming to or going from their work will be replaced by non-drinking men as rapidly as possible.'

"This order has been rigidly enforced and the men have all come to realize that the A. C. & F. Co. of this district will not tolerate a drinking man. A very appreciable reduction in the percentage of accidents developed when this restriction was placed upon drink.

"In one department where over 85 per cent. are foreign workmen and where the prevention of accidents largely depends upon the human element as there is practically no machinery to safeguard, we find by considering all injuries and comparing the six months previous to the elimination of drink with the six months following an increase of 100 per cent. in cars built per injury.

"Since the establishment of this department in the Berwick district of the company, which includes the Berwick and Bloomsburg plants, the men have come to realize that 'Safety First' is for their own benefit in that it lessens suffering and loss to themselves and their families. Mechanical safe-guarding and habits of care have wrought a phenomenal change in plant efficiency and economy.

"We aimed from the start to create a feeling among employes that we desired their hearty co-operation in making the Safety De-

partment as highly efficient as possible. As a means toward this end, a campaign of education was launched. We furnished the workmen with a rule book of helpful safety suggestions and with caps, on which the words 'Safety First' are printed; placards are posted in conspicuous places; monthly bulletins issued by the Department of Labor and Industry and weekly bulletins issued by the National Safety Council of Chicago, Ill., are both distributed among the workmen. Photographs illustrating the wrong way and the right way of performing hazardous operations are placed in especially provided bulletin boards. In this way the workmen are being constantly confronted with suggestions of 'Safety First.'

Prizes for Suggestions.

"Every workman is invited to offer suggestions through the safety committeemen to the Safety Department. Prizes are awarded for approved suggestions. A weekly canvas of all committeemen is made for suggestions which might prevent a possible accident. Once a month the committee, composed of workmen, makes a thorough tour of inspection, reporting unfinished and new suggestions on blanks provided by the Safety Department. At a joint meeting of the foreman's committee and the workman's committee, these findings are discussed and recommendations are submitted to the Safety Department. If an accident occurs, involving a loss in time of three days or more, the workman's committee makes a thorough investigation of the same and submits its findings, including recommendations for eliminating that particular type of accident, to the Safety Department. All chain purchased for operating equipment is inspected at the factory before shipment. Daily inspection is made of mechanical operating equipment by the department repairmen. This sentiment of co-operation has been steadily increasing and the results of these efforts are apparent today in the statistics furnished.

Medical Attendance.

"Prior to the establishment of this department, a large number of accidents occurred among the foreign employes. Instead of reporting to the first aid hospital with their injuries, they often had fellow-workmen treat them in their ignorant and unsanitary manner. This procedure in many cases led to infection. In July, 1913, thirteen cases of infection resulted among the foreign employes through these unsanitary methods of treating injuries. Today, employes injured while at work are sent immediately to one of the three first aid hospitals, where the injuries are treated by an experienced attendant.

Practically all injuries, no matter how slight, are now reported at one of the first aid stations. The attendants work in conjunction with a competent physician and his assistant who are employed by the company to treat all cases. An auto ambulance is also provided by the Department so that an injured person can be rushed to the Berwick Hospital or to the physician's office with all possible speed."

AMERICANIZATION—WHAT IT MEANS TO THE EMPLOYER.

By ANNA A. MacDONALD, Consulting Librarian Pennsylvania Free Library Commission.

In the language of a popular play, "You can't raise children by the dozen, or in bunches; you have got to raise them as individuals," is found the keynote of Americanization. We cannot expect the thirteen million of foreign-born people living in America to become one with us—for that is what Americanization means—all in a bunch, but each community must deal with each foreigner in it as an individual, teaching him, with the means at hand, what America is.

What does America mean to him? It means the promised land, the land of liberty, of equal rights, where labor receives its just reward, where a good living is easily obtained. What too often happens after he arrives is a lack of recognition as a fellow being. There is a segregation, a herding together under adverse conditions which render him powerless to aid himself.

What is it after all, that we as native Americans are proud of? Is it not of our individuality, our personality, our initiative, our originality and our power of self-government? Americanization is giving to the immigrants, all of these traits, and teaching them to men who have had limited opportunities, restricted horizons, and no chance for self-government or self-expression. It means to the employer the awakening of an army for co-operation instead of being "dumb driven cattle" and the development of intelligent and efficient laborers so that they may understand the country and the people with whom they have come to live.

Three-fourths of the labor employed in our mill, mining and construction work, are foreign-born; alien peoples, speaking many languages, with different standards of living and varied ideals of community life. How are they being awakened?

And to whom does Americanization in its best sense mean more than to the employer if viewed from the practical as well as the human side? Does he not have his share in shaping it?

Foreign-Born in Pennsylvania.

In Pennsylvania we find by our last census that we have 1,438,719 foreign-born and 1,806,367 children of foreign-born or mixed parentage. These represent every nationality listed by the United States Census Bureau; that is, 39 nationalities plus 295 "other peoples," with about 100 dialects and languages spoken. We have in Pennsylvania 11 per cent. of all foreign-born in the United States, of whom about 26 per cent. are illiterate in the native language.

The impression gained of the immigrant, when casually seen in our mill and mining communities, can scarcely be called promising. But how much of that is our own fault? It is due chiefly to lack of broad vision and understanding on our part and the result of what we give him.

Felix Adler says the only fair way to judge the other fellow is to put yourself in his place. Suppose we imagine ourselves in some other country under exactly the same conditions the immigrant finds when he comes here,—a strange language, strange food, strange money, strange railway transportation and strange living conditions, and, above all, not knowing whose help can be absolutely trusted. Joined to this is the necessity of earning one's food and shelter. Are we so sure we would do better than he has done?

Suppose we look at him from the eyes of those who see from the inside, persons who have come as immigrants, or who have known the foreigner in his native environment—such as Peter Roberts, Edward Steiner, Jacob Riis, Mary Antin, Emily Greene Balch, John Foster Carr. We find that they all agree on one point, that is, that the immigrant comes with the pioneer spirit of our own forefathers, seeking his chance in the new world, even though economic conditions may be the motive force in this age. Healthy, strong and willing workers usually; earnest seekers for the "liberty and justice" of which they know little in their homes but have heard, exists in America. A few of them can send out such records of accomplishment as "The Making of an American," "The Promised Land," "A Far Journey," and "From Alien to Citizen,"—messages teaching Americans what America really should mean. Most of them come from very primitive agricultural communities and have the mental sluggishness engendered by the old civilization under which they have lived. They are mainly a people used to oppression, not understanding true liberty and our ideal of self-government. The change from their former methods of living to our handfast, industrial life is so great, that many do not survive the shock of adjustment, and fall by the way, or help fill our insane asylums and prisons. Many have experiences which kill whatever ideals they had upon arrival and convince them that there is no justice here, and that heartless

commercialism is our chief characteristic. They become discouraged and disheartened and never come in contact with the best side of American life. Their life is a school of hard knocks. Their lessons in American social life are often gained in the usual social center open to them,—the saloon,—and a knowledge of English is left to chance. If we want good citizens, is it not better for the immigrant to learn his duties, privileges and opportunities from the best sources rather than have such instruction left to chance? Better first to teach him systematically the key to all the rest,—a knowledge of the English language. That knowledge alone, according to a Congressional investigation, reduces the danger from industrial accidents just one-half, and that is not a small item, as we realize since the days of Workmen's Compensation have dawned.

Knowledge of English Increases Efficiency.

One manufacturer enforced the learning of English and gave opportunity to do so during working hours and reported, as a result; an increase in earning power of over 20 per cent.

How shall this English be taught? "Let the schools do it," says the employer. The schools retort, "We are taking care of the children and doing what we can for the adult. We cannot do it all." The problem of teaching the non-English speaking adult is unique, and very difficult, especially when one considers the large percentage of illiteracy. The men go to school tired from the day's work; little effort has been made to have the schools cheerful—to have any element of play introduced to lighten the drudgery of it all; suitable textbooks have only recently been procurable; and we are just realizing that the teacher needs special preparation for the task.

One school-man experienced in the work, says, "The old conception of a teacher driving ignorant or mischievous pupils must, in evening instructions, be completely eliminated. An evening school should be a democratic assemblage. The teacher must meet the pupils as man to man, and woman to woman. They are dealing with men and women, not with children." And again, "There are not many teachers specially trained for the object in view,—the teaching of English to foreigners and the formation of American ideals. The work requires very special training other than that in the ordinary school procedure." One reason why it is so difficult to hold the men in the schools, is, that they are not given what they need. With the instruction in English there should be lessons in civics, that is a preparation for citizenship, a knowledge of our laws, government, history; our standards of living, health, and hygiene.

After the schools are started and the right teacher found to give just what the foreigner wants to know, comes the difficulty of get-

ting him to attend. He is distrustful and suspicious, fearing that somehow he is being exploited. Irregular shifts in working hours seriously interrupt the school work, and besides, can you imagine yourself studying with any degree of success, after a hard day's work in mill, or mine, or on building operations? Some substantial inducement must be held out to him to make it seem worth while, such as increased pay which one firm has promised; or the ruling that only citizens may become "bosses."

How the Employer Can Help.

How can the employer help in this? By co-operating with the Schools Boards. Helping them to put in night schools, to secure the right sort of instruction and to aid in arousing the interest of the employe in the good to be gained by attendance. Or, if the School Boards are not ready to start such a move, other non-religious forces as Civic Clubs, may be ready to lend a hand, or volunteer individual effort may be secured. And lastly, but really the best way after all, whenever possible, is for the employer to see to it himself, allowing time for it during daylight hours and thus, more quickly, securing the best results. The task is so great and urgent it should be ranked as a community necessity and each force making up the community life should take its share of responsibility. As the employer is benefited directly, his responsibility is correspondingly great.

The employer can also help in the process of naturalization by looking up the necessary procedure. How much is the process costing the men in money and time from work? What are the lawyer's fees? Why is such service a necessity? Cannot the Prothonotary's office be open in the evening and so minimize the time lost from work, and why not make the process of receiving citizenship papers a dignified impressive occasion? As example is better than precept, would not the end be gained more rapidly if those, coming in contact with the foreigner, bore this in mind, put themselves in the other fellow's place, and learned to deal more patiently, kindly and justly with him? A few examples come to mind. A foreman in charge of a crane called to a new man on the force, with all the intensity the situation demanded, "Let go! Stand back!" The man not understanding the words but interpreting the order to mean "get busy," stepped forward and took hold—his hand was nipped off. If the foreman had had the necessary words in Italian, or the workman had understood English, there would have been one less maimed man in the world. Again, there were two Italians going to a station at which the express they had boarded did not stop. It was necessary to go on to the next station and come back by trolley, but the train

official did not take the slight trouble needed to make it clear, and there were two needlessly confused and troubled passengers. Another passenger sizing up the situation, leaned over and in a dozen English words, such as the aliens would use, explained the situation. The relief was apparent and the gratitude pathetic On this same railroad system one man was three times sold a ticket to the wrong place and three times sent back, when a little thought or attention, on the part of the person selling the tickets, would have prevented it. Can we blame that man if he is a little suspicious of our good faith?

Is it a good example of "democracy" to have a brakeman stand with his arm across the car steps and motion the immigrant woman with her bundles and children into the front car, then carefully help the better dressed American, who followed, and really did not need any special help, into the well guarded car? In marked contrast to this was the gatekeeper on another system, who held up the same American woman while he patiently tried to explain to an immigrant that she was at the wrong station, and detained her until another employe came up and with a hearty willingness went to show the way. Big corporations can set standards and exact special lines of conduct from their men—why not see how much such standards and the carrying out of them can play in sensible helpful Americanization?

Living Conditions Are Factors.

Then there is the serious problem of health and hygiene coupled with housing. We have heard it said, and accept it as a fact, that the foreigner will not keep clean, will not care for better houses. But experiment has proved this to be one of the most fruitful fields of Americanization. Many are not clean because they have no facilities for keeping so. The over-crowding in houses, and the undersupply of a water system are at times directly responsible for much of the uncleanliness.

Cannot the employer have some influence in this, either directly or indirectly? If he has an accurate knowledge of the living conditions of his employes,—what the water supply is, what the houses are like and what the sanitary conditions are,—he can, often, understand more clearly some of the things affecting the employe, and will know better how to meet them. At least it seems only fair to the immigrant to give him a chance to prove whether he would rather be clean or not,—try a simple shower bath house and see what results.

As to housing, perhaps the least said of much of it, the better for our pride in our "American standards." However, the experiments of two mill towns come to mind. In both, much money and effort

have been expended in the attempt to give the foreigner sanitary and comfortable homes. The one company built good sized and attractive houses, of one grade, with bath-rooms, furnace heat, pretty fireplaces, etc. The result was a fairly high rent, over-crowding, frozen water pipes, a disregard of the furnace and a hole knocked in the flue, above the fire place, so the familiar stove could take its place. Of course the builder of those houses thinks it is of no use to try. He did not realize the trouble really was, that he had not understood his problem thoroughly. He was trying to solve it entirely from his own point of view. It is not the foreigner's fault if we do not understand him.

Contrasted with this experiment, is a second, where the company put up two grades of houses. The first, a simple bungalow, designed to prevent over-crowding, where provision was made for the beloved heating stove, water—and plenty of it—was furnished with the minimum danger from frozen pipes, the rent was reasonable and a chance given to the workman to own his little home and garden. A home, probably, much nearer American standards than the tenant had ever had before, but not too long a step from the Old World familiar home. There was a better grade of houses for those who wished them and were ready to take care of them. One large element in the success of this experiment was the influence of a Neighborhood House, established by the corporation, the year after the mills were started, and kept under the care of trained workers.

What About Recreation?

Might not some supervision of the "play-time," or the time away from work be worth while? One employer who had men in camps, told of his troubles with them. He would get in an entirely new group of men and have a "perfectly clean camp." The men would somehow bring in "drinks," there would be a big fight, trouble for the sheriff, expense for the county, and the employer would have the loss and trouble of clearing out the lot and getting in a new group. Evidently "a perfectly clean camp" did not take care of the play-time of these men!

Another sort, was that tried by one of our large corporations aided by an interested outsider. A trained welfare worker was kept at the camp whose business it was to take care of the free time of the men as far as he could. Lessons in English and civics were given, a reading room was established with books and papers which told of America, friendly games were provided, and, best of all, a victrola, with records of native music, was supplied. Many of the records were loaned by friends who were interested in the experiment. There was no trouble at this camp, excepting once when one member came

back drunk. The men kept steadily at a high rate of efficiency, and what is equally important, left the camp better for having been there. That experiment paid in the quality of work done as well as in Americanization.

A little personal interest taken in what the employes do with their spare time, to discover what recreations are available, what books and papers there are in their own language, as well as in English, to which they may have access, and what influences surround them. Surely such interest would be for the good of the community. Would it not be possible to see that a ball ground was near; a club room supervised in some way to replace the saloon as a social center; and newspapers reflecting the kind of American life we would like to have the foreign workers emulate? One American returning from Italy tells of an Italian he found in a small village. This Italian had been to America to make his fortune and returned the big man of his village. He wore a large checked suit, a glittering scarfpin, hat on one side and walked around with his thumbs in the armholes of his vest. He said to the American, "You no American," so emphatically that the American replied, "Why?" The answer was "You no swear, all Americans swear." After all, are we surprised at his impression of us and at what he learned from us? The foreigner usually loves flowers and if given a chance will enjoy turning unkempt places around the works into beauty spots.

Finally, one large factor working against the immigrant is race prejudice on the part of the Americans. This is the reason that the brakeman, cited in a former paragraph, guarded the railway car so carefully, as it was not necessarily his own desire, but what was demanded by the traveling public. In no place does this race prejudice count more for ill than in the labor world. How can we expect co-operation and willing service from those we constantly humiliate by calling "Dagos," "Wops," "Hunkies?" The following, copied from a recent daily—the molders of public opinion—reflects that public opinion after it has been duly formed, when it says in an editorial "If we cannot deport foreign rioters, we can keep them in jail until they will be glad to return to their native land." Why not be just even to a foreign rioter, and by living ourselves as Americans should, and with patience and wise care help those, who do not see so clearly as we that liberty is not license.

The employer can help stem this tide of race prejudice, and should stand by other forces working to give the immigrant "America's chance." For it has been truly said "We are all a part of each other, and rise and fall together," and only by "respecting him, his native land and his religious faith, can we open to the foreigner the doors of American life and opportunity."

BUREAU OF INSPECTION RECORDS INDICATE 72,931 INSPECTIONS AND VISITS MADE TO INDUSTRIAL PLANTS IN PENNSYLVANIA DURING THE FIRST ELEVEN MONTHS OF 1916.

During the first eleven months of 1916, there were 72,931 inspections of industrial plants and visits,—for preventing and investigating accidents, and performing other work of the Bureau of Inspection,—made by the inspection force of the Bureau. As a result of those visits, 11,489 separate instruction orders were issued by the inspectors for the installation of safeguards and other precautions for the protection of the life and health of workers. Many of these instruction orders called for a variety of improvements, ranging from the erection of fire escapes to the clearing out of cellars for the prevention of fire and the installation of safeguards on gears and other unprotected parts of machinery.

These orders are issued with a time limit specified for the completion of the work. Up to the end of November, 8,362 of the orders had been satisfactorily met by the employers to whom they were issued, indicating a spirit of co-operation for safety. The remaining instructions, not fulfilled, are being completed, in most part, during the time limit specified for the improvement. A rigorous check is kept on the instructions issued and co-operation of the employers can aid the Department greatly, by making it unnecessary for inspectors to call several times after the issuance of instructions to hasten the performance of the work.

Some of the individual inspections included in the total record are of great industrial plants, with thousand of machines, requiring close and detailed inspection by two inspectors for periods of time varying from one week to a month to complete.

Many of the visits have been in the investigation of complaints of unpaid workmen's compensation. The working force of the Bureau of Inspection acts in co-operation with the Bureau of Workmen's Compensation and complaints of unpaid compensation are investigated in all sections of Pennsylvania by inspectors from the Bureau of Inspection.

Reports of inspectors indicate exceptional activities by Pennsylvania employers in the promotion of safety committees as a part of shop management. Most of the larger plants are maintaining safety bureaus and through co-operative action with committees of employes are eliminating many danger spots in the various plants.

Division of Accident Investigation.

The Division of Accident Investigation is one of the most important branches of the Bureau of Inspection in the work of eliminating, so far as possible, reoccurrence of accidents from causes that can be removed.

When accidents occur, killing or injuring industrial employes, the reports of such accidents are received in the Bureau of Statistics and Information of the Department of Labor and Industry. All reports that describe accidents resulting in death or causing disability for two or more weeks are forwarded to the Bureau of Inspection and assigned, in that Bureau, to the Division of Accident Investigation. The reports are carefully examined and analyzed in that Division and from that Division a statement of each accident, setting forth none of its details, is sent to the field inspector in whose district the accident occurred. This field inspector upon receipt of the information which enables him only to identify the particular accident he is to investigate, makes a thorough inspection of the place of the mishap and from all possible sources obtains all available information concerning the accident and its causes. He immediately issues instructions or takes other necessary steps to guard against the occurence of a similar accident in that plant in the future This field inspector also brings to the attention of the manager of the plant, if it does not maintain a safety department, the matter of accident prevention generally and endeavors to gain co-operation for the reduction of all accidents in that particular plant. After that work is completed the field inspector then makes a detailed report of the causes leading to the injury to the worker, to the Department offices at Harrisburg. This report goes to the Division of Accident Investigation, in the Bureau of Inspection, where it is carefully checked and if any further suggestions are necessary they are communicated to the plant in which the accident occured. By a follow-up system the case again comes to the attention of the Division at a future date and a further investigation is made to ascertain whether instructions issued have been met.

This Division of Accident Investigation also develops much material for use of the Bureau of Inspection in its general work of accident prevention.

A few of the accidents investigated recently in this Division are outlined in the following paragraphs.

Preventable Accidents.

A crane "hooker-on" selected a dangerous place to take a rest and lost his life by so doing.

While the magnet crane was carrying steel, the fuse in the crane blew out and the steel fell on the "hooker-on" who was resting on a plank in such a location that the crane operator could not see him.

No one should be permitted to remain in or about the work place unless his duties require him to be there and employes who are temporarily unemployed should be required to go to a place of safety.

* * *

A brakeman on a yard engine stepped off the engine and ran on the track ahead of the locomotive to throw a switch and in so doing tripped and fell. Before the engine could be stopped, the first two wheels had passed over him, killing him almost instantly.

Running or walking on the tracks, immediately ahead of a moving car or engine, is bad practice, and often results fatally as in this case.

* * *

The thoughtlessness of employes and their willingness to "take a chance" even when the possibility of accident is well understood, are two of the great obstacles with which those interested in the safety of workmen have to deal. The following accident is one of many resulting from this cause.

A "sticker-in" of three years' experience, on an 8-inch rolling mill, having lost two turns on account of sickness, was "speeding-up" and although he had been warned, and knew that the rules of the company prohibited "repeating" (a bar must be entirely through the rolls before being returned) he disobeyed the rules and carelessly "repeated." The ragged end of bar caught on the guide box and he was pinned against the "housings" by the loop, resulting in the hot bar burning off three-fourths of both of his legs.

Only a few moments before the accident occurred the foreman had warned the employe against making the loop, but he failed to heed the warning and paid the penalty with his life.

* * *

A laborer, engaged in the shipping department of a steel plant, came from the yard and walked up to the hot beds, at the rear end of the cold saw, to see how much structural steel was on the hot bed. Just as he reached a point at the back of the saw the belt broke and instead of flying over the saw pulley it went underneath the pulley and struck the workman fracturing his skull.

Upon investigation of this accident, it was found that the front part of this belt was guarded to protect the operator on the far end, but the guard was not long enough.

Had the saw pulleys and belts been entirely enclosed, this accident would have been averted.

* * *

While engaged in grinding a piece of steel on an unguarded emery wheel, an employe was fatally injured when the wheel broke. A portion of the broken wheel struck him on the left side of his face, just below the eye, fracturing his upper and lower jaws and severely lacerating his face. Death resulted five days afterward.

Many accidents occur from the breaking of emery wheels and that the employe or workman may be protected from this hazard, the Safety Standards of the Industrial Board require either substantial hoods, tapered flanges, or both, sufficiently strong to retain the pieces of wheel in case of breakage.

* * *

A sliver of steel entered the hand of an employe of a large steel plant while assisting the blacksmith in bending some angle iron. Instead of going to the emergency hospital for treatment, the employe had a fellow worker remove the sliver of steel, after which the injured man continued working from Saturday until Tuesday, when his hand had become so swollen that he was forced to quit work and report to the hospital. After four days' treatment, he left the hospital and failed to have subsequent treatment and, as a result, death occurred from infection forty days after the injury.

* * *

An employe of a steel company with several other men, was assisting in the unloading of broken retorts and residue from a spelter furnace. He went on top of the car to work the contents through the drop doors when carelessly or thoughtlessly he stepped on the material. It caved in, and he went down into the hot residue up to his waist. He was so severely burned that death followed the next day.

Had the workman placed a plank across the top of car the accident would have been prevented.

* * *

While making a transformer test, an electrician, with his helper had coupled up the power to the table and while the helper was holding the two small terminals on the "low side," the electrician went to the gage to ascertain the voltage and found the test satisfactory.

The helper then took the two low voltage terminals and started back to the other side of the table when the electrician came back to the bench and took hold of the two terminals and attempted to take off the leads without throwing the switch. He received a shock of 1,200 volts which killed him almost instantly.

* * *

While a gang of laborers was engaged in pulling skulls from the bottom of an open hearth furnace, which was "off" for repairs, two of the men were ordered to go to a mixer platform and get a large hook used for pulling skulls. This hook weighs 180 pounds and the men wanted the crane to lower it to the charging floor, 25 feet below.

One of the mixer men told the laborers they did not need the crane, as the hook was not very heavy and that they could throw it down. One of the laborers volunteered to watch and warn any one who might be passing underneath. After two of the laborers had dragged the hook to the side of the platform, where the man was on guard, they were told to take it to the rear of platform and drop it from there. They dragged the hook to back of the platform, the man remaining on guard at the opposite side.

* * *

An employe passed under the mixing platform, out of sight of the men on guard, just as the hook was dropped. He received the full force of the falling hook on his head, and was kille dinstantl.y

Had the crane been used to lower the hook the accident would have been prevented.

Division of Buildings.

Reports from inspectors throughout the State, for the month of November, show a decided tendency on the part of theatre and motion picture theatre owners to improve conditions. Theatres which have been practically unfit for occupancy, by reason of improper ventilation and sanitation, have received special treatment by the inspectors of this Department and theatres which were unsafe, as to aisles and exits, have been made to conform to the standards adopted by the Industrial Board.

The motion picture business has increased so greatly during the last few years that the inspectors must be continually on the alert to prevent overcrowding of the theatre house, and when old houses are remodelled or new houses established, to see that the aisles and exits and general conditions are up to the adopted standards. There are approximately 1,575 motion picture theatres in Pennsylvania.

For the purpose of correcting conditions and enlisting the co-operation of architects and builders in Pennsylvania, the appended letter and digest of theatre and motion picture theatre requirements have been sent to builders and architects by the Commissioner of Labor and Industry.

Harrisburg, Pa.,

Dear Sir:

I am enclosing herewith a brief digest of the requirements of this Department for the alteration, erection, conversion, or repair of any building now used or to be used as a theatre or motion picture theatre. The necessity for the distribution of such a list has arisen from the wide variance in the many propositions submitted to this Department for approval. There has been a great lack of uniformity and it is to correct these conditions that we are calling the matter to your attention.

To eliminate this lack of uniformity we would urge that you become familiar with these requirements and co-operate with the Department in its endeavor to raise the standard of theatres and motion picture theatres in Pennsylvania, (outside of the cities of the first and second class over which this Department has no jurisdiction) by incorporating these features in any plans you may be called upon to prepare for such a building.

This digest is drawn up from regulations promulgated and adopted by a committee consisting of architects, proprietors of motion picture theatres, members of the State building code commission, representatives from the State Fire Marshal's office and from this Department, after a close study of all other codes we could obtain. These regulations have since been approved by the Industrial Board of this Department.

I assure you that any assistance you may be able to render to us will be highly appreciated.

Yours faithfully,

(Signed) JOHN PRICE JACKSON.

DEPARTMENT OF LABOR AND INDUSTRY.

Bureau of Inspection—Building Division.

Requirements for Architects and Builders Regarding Construction, Alteration or Repair of Theatres and Motion Picture Theatres.

General Requirements.

Location to be made suitable for the purpose: No steps allowed at entrance or exit openings other than one of 8 in. rise to keep out weather conditions. Any other difference in elevation between the floor and ground levels shall be overcome by means of inclines which do not exceed 1 ft. rise in 10 ft. When side and rear courts are necessary they shall not be less than 5 ft. wide in the clear and shall lead to a street or alley, and all doors opening into the courts shall be made to swing flush with the wall.

Exits: In all cases shall not be less than 5 ft. nor more than 6 ft. wide in the clear and shall be outswinging double doors, equipped with approved panic locks.

Aisles: Having seats on both sides shall not be less than 4 ft. wide in the clear and wall aisles shall not be less than 3 ft. 6 in. wide in the clear. Cross aisles shall not be less than 5 ft. wide in the clear.

Seats: Shall be separated by arms and shall not be less than 18 in. between the arms and should be 30 in. from back to back of rows, and shall be securely fastened to the floor. The front row of seats shall not be less than 12 ft. from the screen and the rear row of seats shall not be less than 5 ft. from the foyer wall.

Motion Picture Machine Booth: Must conform in every respect to Act No. 206, May 1, 1909, a copy of which is enclosed.

Stage: If any, must conform to Act No. 233, May 3, 1909, a copy of which is enclosed.

Plans: Showing all details and dimensions must be submitted in duplicate to this Department and approved in accordance with Section 5, Act No. 233, before commencing either new work or alterations.

Classification of Theatres.

Theatres seating less than 251 shall conform to General Requirements and, in addition, shall have two 5 ft. in front and two 5 ft. exits in the rear.

Theatres seating less than 501 and more than 250 shall conform to General Requirements and, in addition, shall have three 5 ft. exits in front and two 6 ft. exits in the rear.

Theatres seating less than 1,001 and more than 500 shall conform to General Requirements and, in addition, shall have three 5 ft. exits in front, plus 20 in. additional for each 100 or fraction of 100 over 500, two 6 ft. exits in the rear and two 5 ft. exits, placed one on each side, of the theatre.

Theatres seating over 1,000 shall conform to General Requirements and in addition, shall have four 5 ft. exits in front and one additional 5 ft. exit in front for each 500 seats over 1,000, also two 6 ft. exits in the rear and two 5 ft. exits on each side, centrally located.

Watch the Fire Escapes.

This is the season of the year when the thoughts of the careful man turn to the protection of his property from fire and the safety of tenants in the event of fire.

A thorough test should be made of the fire escape at this season to see that none of the supporting members has been weakened through rusting. A fire escape which is not often used will, if the paint is not properly applied, rust considerably within the limit of one year allowed by the Fire and Panic Act. This is true particularly at the joints and when the connecting bolts are not painted.

The owners, as well as the State Inspectors, should try to be present at the erection of fire escapes to see that the workmen do their part of the work thoroughly and that an additional coat of paint is applied at joints and that all bolts are dipped and the paint on them thoroughly dry before erecting. They should also see that the carrying bolt, passing through the wall, has had the required number of coats of paint and that the extra coat is thoroughly dry before the bolt is attached to the wall.

Some fire escape manufacturers use bolts in assembling and erecting which are never painted when the other parts are painted, and

the consequence is, that, after being in the weather for a few days, the rust starts to run down over the iron work and it is only a short time before the entire fire escape is affected.

Particular attention should be paid to doors leading to passageways and fire escapes, that they do not stick and that the passageways are not blocked; also that boxes, cans or other articles are not allowed to accumulate on the fire escape, and that the fire escape is free from snow and ice.

Blocking of fire escapes or passageways, and failure to paint fire escapes at least once a year, are violations of the law.

Indifference and failure of owners to examine and see if fire escapes are safe and sure, jeopardize the lives of the public; and while the fire escape facilities may be adequate, when the crucial test comes there may be loss of life through structural weaknesses.

Plans Submitted to Division of Buildings.

During the month of November, the number of plans presented to the Division of Buildings for approval of fire escapes, theatres and other buildings was nearly equal to the number presented during the previous month,—fire escapes as usual being in the lead.

There were received, in the Department, sixty-two sets of new plans and thirty-two sets of revised plans, a total of ninety-four. Of these, sixty-six sets were approved and the remainder held in abeyance or rejected. The list of plans approved and fire escapes ordered is appended.

Plans Approved for Month of November, Nineteen Sixteen. Bureau of Inspection, Department of Labor and Industry.

Town.	Building.	Cont'r or Arch.	Owner.
		FIRE ESCAPES.	
Wyoming,	Hotel,	Scranton Iron & Steel,	Munley's Hotel.
Beaver Falls,	Store Bldg.,	Taylor & Dean,	Marstole Fur. Co.
Farrell,	Apartments,	Herbert Johnson,	Santell di Silvia.
Farrell,	Apartments,	Herbert Johnson,	James Sarcinelli.
South Bethlehem,..	Apartments,	W. F. Remppis Co.,	George Zboyovsky.
Harrisburg,	Store & Apts., ..	Smith Fence & Iron Co.,	Jacob Hoffman.
Boyertown,	Hall,	W. F. Remppis Co.,	Friendship H. & L. Co.
Steelton,	Apartments,	Potts Mfg. Co.,	Eckles.
Harrisburg,	Apartments,	Potts Mfg. Co.,	Max Lane.
Reading,	Hotel,	Bauman Iron Works,	Aldine Annex.
Childs,	Mill,	Cross Engineering Co.,	Stone Silk Co.
Pocono Lake,	Hotel,	Austin Reilly,	Isaac Stauffer.
New Kensington,..	Hotel,	Taylor & Dean,	J. C. Goldburg.
South Bethlehem,..	Apartments,	L. Valenzo Iron Works,	Michael Bierbaum.
Mt. Union,	Store & Apts., ...	Nee-Wadlow Co.,	David Saxe.
Greensburg,	Home	Taylor & Dean,	Westmoreland Co.
Shenandoah,	Shop Bldg.	W. F. Remppis Co.,	Spont Mfg. Co.
Danville,	Lodge Hall	Danville Foundry & Machine,	B. P. O. E.
Altoona,	Apartments	Geo. W. Anne & Son,	Rev. Alex. Lamberson
Mt. Pocono,	Hotel	G. D. Hoffman,	E. H. Smith.
Homestead,	Apartments	Keystone Ornamental Iron Co.,	T. D. Maloney.
Loupurex,	School	Wilson & Black,	Heidelburg P. Sc'ls.
Danville,	Hotel	Danville Foundry & Machine Co., ...	St. Elmo Hotel.
Snydertown,	Hotel and Hall ...	Geo. W. Anne & Son,	Mary C. Farrow.
South Bethlehem,..	Apartments	S. Bethlehem Ornamental I. Wks.,.	Nathan Frick.
South Bethlehem,..	Apartments	S. Bethlehem Ornamental I. Wks.,.	Joseph Preletz.

Plans Approved for Month of November, Nineteen Sixteen. Bureau of Inspection, Department of Labor and Industry.—Continued.

Town.	Building.	Cont'r or Arch.	Owner.
		FIRE ESCAPES—Continued.	
South Bethlehem,..	Apartments	S. Bethlehem Ornamental I. Wks.,.	John Weiss.
South Bethlehem,..	Apartments	S. Bethlehem Ornamental I. Wks.,.	John Weiss.
Canadensis, ...	Hotel	Scranton Iron & Steel Co., ...	James Besecker.
Bloomsburg, ...	Apartments	Danville Foundry & Machine Co., ...	Dr. J. S. John.
South Bethlehem,..	Apartments	S. Bethlehem Ornamental I. Wks.,.	Adam Brinker.
Colona, ...	Hotel	Star Ornamental Iron & Wire Wks.	S. P. Haller Co.
Columbia, ...	Factory	Geo. W. Anne & Son, ...	C. A. Herr.
Warren, ...	Store and Apts. ..	Kline D. Baker, ...	G. B. Enworth.
Conneaut Lake, ..	Hotel	Kline D. Baker, ...	Sylvester McGuire.
Connellsville, ...	Factory	J. W. Ferguson, ...	Specialty Silk Co.
Phillipsburg, ...	Bank and Office ..	Denison & Hirons.	Moshannon Bank.
Reading, ...	Mission Bldg.	Bauman Iron Works, ...	Hope Rescue Mission.
Altoona, ...	Store and Apts. ..	F. J. Shollar & Son, ...	M. Papadeas.
Reading, ...	Hotel	Bauman Iron Works, ...	Hotel Annex.
		THEATRES.	
Chambersburg, ...	Theatre	Shields, ...	H. R. Weber,
New Bethlehem, ..	M. P. T.	Thomas F. Williams, ...	A. A. Stewart.
Carrick, ...	M. P. T.	E. A. Roth, ...	M. Bluestone.
West Middlesex,..	M. P. T.	.....	Charles Risher.
Lebanon, ...	M. P. T.	Hauer & Mowere, ...	Geo. T. Spang.
Allison, ...	M. P. T.	A. P. Cooper, ...	Furnano & Hunt.
Allentown, ...	Theatre, ...	E. C. Horn, ...	Wilmer & Vincent.
Johnstown, ...	M. P. T.	Franz C. Koenig, ...	Geo. Panagatonis.
		BUILDINGS.	
Reading, ...	Mill, ...	H. G. Mohn, ...	Oakbrook Hos. Mill.
Coatesville, ...	Hotel	W. Leslie Walker, ...	Worth Bros.
York, ...	Factory	G. F. W., ...	Home Fur. Co.
Allentown, ...	Apartments	Jos. Cassone, ...	Mrs. O. Cassone.
Troy, ...	Court House	Consodine & Haskell, ...	E. E. Van Dyne.
Reading, ...	Apartments	H. G. Mohn, ...	Wm. E. Fisher.
South Bethlehem,..	Office Bldg.	A. W. Leh, ...	Beth. Fdy. & Mch.
Chambersburg, ...	Hotel, ...	M. A. Rhoades, ...	Otto John.
Johnstown, ...	Apartments	.....	H. G. Kantner.
Allentown, ...	Warehouse	T. H. Moyer, ...	Calvin E. Ahlum.
Tarentum, ...	Apts. & Hall	Cress C. Dowler, ...	People's Natl. Bk.
		BAKERIES.	
Philadelphia, ...	Bake Shop	E. J. Pappano, ...	John Sanninni.
W. Philadelpbia,..	Bake Shop	E. K. Crothers, ...	Mrs. Ida Scigle.
		HALLS.	
Ebensburg, ...	Auditorium	James Reilly Gordon, ...	Lester Larimer.
		EXHAUST SYSTEMS.	
Oil City, ...	Dust Collectors ..	.....	Joseph Reid Gas Engine Co.
		TOILETS AND WASH ROOMS.	
Lansdale, ...	Wash & Toilets..	F. F. Vogel, ...	Lansdale Fdy. Co.
Chester, ...	Foundry Toilets ..	.....	Chester Steel Casting Co.
Phoenixville, ...	Toilet & Wasb Rooms.	William Smith, ...	Phoenix Iron Wks.

Summary.

Fire escapes,	40
Theatres,	8
Buildings,	11
Bakeries,	2
Halls,	1
Exhaust systems,	1
Toilets and wasb rooms,	3
Total,	66

Plans—Bureau of Inspection, Department of Labor and Industry, November, 1916.

Total number of new plans received during the month,	62
Total number of revised plans received during the month,	32
Total number of plans received during the month,	94

Fire Escapes Ordered During the Month of November.

Place.	Name.	Location.
Steelton,	L. Eckles,	Adams and Front Streets.
Wilkes-Barre,	Est. of W. N. Jennings,	59 W. Market St.
Kittanning,	Hotel Stein (R. D. Stein)	
Kittanning,	Safe Deposit Building,	Market and McKean Sts.
Kittanning,	Meredith Building,	Market Street.
Kittanning,	McElheney Building,	Jefferson Street.
Kittanning,	Neale Building,	Market Street.
Kittanning,	Reynolds Hotel,	Market Street.
Kittanning,	Booher Apts.	
Reading,	Mary Krick,	812 Elm Street.
Reading,	Frank Beshore,	8th and Elm Streets.
Reading,	Bernard Klinikowski,	143 S. 7th Street.
Braddock,	Bowen Apts. (E. A. Stroud & Co., Agts.)	
Allentown,	Orpheum Theatre (F. T. Anderson),	

Safety in Boiler Operation.

In the Division of Boilers, of the Bureau of Inspection, are received and assembled the reports on boiler conditions throughout Pennsylvania. There is probably no single apparatus in a manufacturing plant that can cause, through neglect, the same havoc as can a boiler.

Great care should be given boilers, during the winter months; especially, portable steam boilers used to operate small saw mills or similar plants in which the boiler itself may be exposed to great changes in temperature. Wide variations of heat and cold cause the boiler metal to expand and contract and exert a weakening influence on the boiler structure.

On November 29, 1916, a portable boiler, operating a saw mill, exploded with terrific force, killing the fireman and an assistant, and severely injuring another person.

Upon examination of the boiler, after the explosion, it was proved, beyond a doubt, that the cause was excessive pressure. An examination of the rivets, the stay bolts, and the sheets, forming the boiler, showed that the manufacturer had used good material.

The boiler was torn to pieces, the parts flying in different directions, some to a distance of 1,000 feet, and the tubes were thrown out of the shell. The rear end of the boiler was found in the woods about 1,000 feet away from the boiler house. The crown sheet and dome were discovered about 800 feet away, in an opposite direction.

It developed from an investigation, after the accident, that the firemen had screwed the safety-valve down, with the object of increasing the pressure in order to gain more power.

As far as it was possible to learn, this boiler was a new one, and was constructed for a pressure of 110 pounds, but there was no record or knowledge of any inspection of it.

This is a case where ignorance of the operator caused deaths and injuries, and damage to valuable property. Too much stress can not be placed on the value of the safety valve as the most important appliance on a boiler. It should never be adjusted by any one other than an inspector, nor adjusted to relieve at a pressure greater than that allowed by the inspector.

Safety-valves should be tested twice a day, by lifting the valve off the seat, using the lever which is attached for that purpose.

A uniform water-level should be maintained by a constant feed, if possible. If, on account of the location, a constant feed is impossible, the feeding should be done in small quantities and at frequent intervals.

The water gauge-glass should be kept clean, the gauge-cocks in good order, the pressure-gauge tested out at regular hours and the connections from the boiler to gauge made of brass, copper or bronze composition with a valve so placed as to permit the inspector to attach his test-gauge while the boiler is in operation. This valve should be located where it will drain the connections, so far as to prevent freezing in cold weather.

The fire under the boiler should be started slowly in order to prevent unequal expansion which causes leaky tubes, seams and rivet holes.

Leaks should be immediately remedied on account of their leading to external corrosion and pitting. Failure to do so has been the cause of many serious accidents and has led to the condemning of many boilers within a short time.

Following is a list of the individual inspectors of boilers who have qualified, in examinations conducted by the Department of Labor and Industry, to hold State certificates. A list is also given of the insurance companies whose inspectors have qualified in these same examinations to inspect boilers with the approval of the State.

BOILER INSPECTORS.

Charles Garlick, Bussemer Bldg., Pittsburgh.
Peter U. Farley, 421 Main Street, Bloomsburg.
Charles E. Flickinger, 219 Franklin Street, Hanover.
W. J. Knepp, Belleville.
L. R. Leonard, 250 Crossland Ave., Uniontown.
John MacCollum, 56 Wood Street, Wilkes-Barre .
S. M. Stevenson, 104 Monroe Street, Grove City.

James E. Speed, 127 Sassafrass Street, Erie.
Edward V. Starner, 553 West College Ave., York.
D. C. Tomlinson, Mansfield.
T. M. Washburne, R. D. No. 2, Tunkhannock.
Samuel W. Zerr, 243 Reed Street, Reading.
Daniel Young, 630 Lime Street, Lancaster.
Robert L. Collum, 398 Hamilton Street, Allentown.
J. Garfield Evans, 523 Church Street, Slatington.
John T. Hart, 324 Delaware Ave., West Pittston.
S. D. Harding, 1825 Junction Street, South Williamsport.
William L. Sponsler, 164 South Second St., Steelton.
Rueben Z. Schott, 589 Guilford Street, Lebanon.
Evan R. Jones, Boiler Inspection Dept., City Hall, Scranton.
Frank L. Diehm, 332 N. Second Street, Harrisburg.
G. A. Troutman, Saxton.
William Allison, Punxsutawney.
Fred M. Nickles, 230 9th Street, Renova.
Robert End, 1017 Uvilla Street, Pittsburgh.
Mark Clunk, 1807 Arrott Bldg., Pittsburgh.
William J. Killiam, 716 Susquehanna St., Sunbury.

INSURANCE COMPANIES.

American Casualty Co., Reading, Pa.
Fidelity & Casualty Co., 92 Liberty St., New York, N. Y.
Hartford Steam Boiler Inspection & Insurance Co., 142 S. 4th St., Philadelphia, Pa.
Hartford Steam Boiler Inspection & Insurance Co., Arrott Bldg., Pittsburgh, Pa.
Maryland Casualty Co., Baltimore, Md.
Ocean Accident & Guarantee Co., Ltd., 29 John St., New York, N. Y.
Royal Indemnity Co., 84 William St., New York, N. Y.
Travelers Indemnity Co., W. P. Eales, Supervising Inspector, 415 Walnut St., Philadelphia, Pa.
Globe Indemnity Co., 45 William St., New York, N. Y.

DRINKING WATER—A PURE AND AMPLE SUPPLY NECESSARY FOR WORKERS.

The necessity of an ample supply of pure drinking water is a subject that is given very little thought by the person whose attention has not been especially called to it. We drink water because we are thirsty or because it happens to be placed before us at our meals. Very few people drink a certain amount systematically, yet it is just as necessary, in fact it is more necessary, that our bodies be provided with a definite amount of water at all times than that they be provided with a sufficient amount of clothing in cold weather.

Water carries to the various portions of the body the nourishment needed by each individual part, and as it leaves the new material to be used in the building up of tissue, it takes up the waste products, carrying them to the kidneys, the bowels, the lungs and the skin to be eliminated from the body by these organs. The average adult needs approximately three quarts of water a day. As more or less of this amount is taken with the food eaten, it is not to be understood that these three quarts should be taken as drinking water. In fact, a person not doing laborious work accompanied by much sweating will probably obtain sufficient water for his needs by drinking from two to three pints a day.

It is not enough to depend upon the water drunk at mealtime, for if a sufficient amount for the needs of the body is taken then, the gastric juice would be diluted to too great an extent. If the amount taken would be so small as not to affect the gastric juice perceptibly, it would not be sufficient for the requirements of the system. To keep in good health plenty of water should be drunk between meals. In this instance the expressions "between meals" and "while at work" are practically synonymous. It would seem that every employer of labor would provide water freely without being compelled to do so. Yet this matter has been of enough importance to have the legislatures of nine of the States of the Union enact laws upon the subject.

Legislation in Pennsylvania.

In our own State part of the Women's Act of July 25, 1913, reads:—"Section 12. Any person employing any female in any establishment shall make reasonable efforts to, at all times, provide a sufficent supply of clean and pure drinking-water. Such water shall be supplied through proper pipe connections with water-mains which furnish water for domestic purposes, or from a spring or well, or body of pure water. If drinking-water be placed in receptacles in the establishment, such receptacles shall be properly covered to prevent contamination, and shall at all times be kept thoroughly clean: Provided, That no employer in any establishment shall collect from any such female employe any money for ice furnished in his establishment for drinking purposes, for the use of the employes".

The Lead Poisoning Act of July 26, 1916, stipulates that "The employer shall provide and maintain a sufficient number of sanitary drinking-fountains, readily accessible for the use of employes." And the Saftey Standards of the Industrial Board on Canneries require that a sufficient supply of cool potable water shall be provided at all times.

The necessity of providing pure water is fully as great as the necessity of providing any water. Many a man has contracted typhoid fever by drinking water which he would never have touched if he had known it to be polluted. It is, therefore, imperative that every person or corporation providing drinking-water assure themselves that such water is not capable of transmitting disease.

If the water supply is under the control of a municipality, it is the duty of that municipality to keep a constant watch upon it by inspecting the source of supply and by frequent examinations of the water itself. If it is under the direct control of an employer, as is necessarily the case when no municipal supply is available, it is that employer's concern to make sure that his supply is absolutely safe. The water obtained from a deep well, so constructed that surface water cannot enter it, from a spring walled up and covered so as to protect it from contamination, or from streams in the uplands, far from human habitations, is usually the least apt to be polluted. It is well, however, to have the water analyzed by some one who specializes in that kind of work and thus be absolutely sure that no harm can be done by it.

Boil Water When of Doubtful Purity.

If there is any doubt of its purity the water may be rendered safe by boiling it for twenty minutes; or it may be filtered. There are some excellent filters on the market which may be attached to an ordinary faucet and give good service if cleaned properly and often. It is essential that no filter of this kind be installed except on expert advice, as there are for sale many which remove only the coarse particles, leaving the dangerous bacteria and giving to the person using them a false sense of security. Various chemicals, such as lime, alum, chlorine, iron, etc., are used in purifying water. To obtain good results with these substances, it is essential that an analysis of the water be made and the kind and amount of chemical to be used be regulated by the results of such examination.

A very common fallacy is the belief that water obtained by melting ice is safe for drinking purposes. It is safe only if the water was safe before it was frozen. Unless this can be conclusively demonstrated, water from such sources should be regarded as suspicious.

Aside from the moral obligation upon employers to provide pure drinking water for all their workmen, it has, in several States, been decided that it is a legal obligation as well. So far the question has not come up before the Pennsylvania Workmen's Compensation Board, but it is worthy of note that it has come before the Compensation Boards in other States and that there are on record several instances of such Boards deciding that the disability from disease contracted from impure drinking water furnished a workman by his employer is a proper cause for the payment of compensation.

POSTURE AT WORK.

Anyone wishing to make an interesting study which would reveal astonishing results can find a worthy theme in the subject of posture.

Take for one day, the crowds in the street, noting especially the rounded shoulders, the shoulders of unequal height or the head protruding in front of the shoulders. Watching the workers emerge from a factory or the various types coming from an office building in the evening after the day's work is ended will reveal these imperfections in larger numbers.

In looking for the cause of these defects it is impossible to attribute their presence to any one factor. It may be fatigue, especially fatigue produced by prolonged standing. It may be improper seats, seats that are too high or too low, seats without backs, or which do not support the muscles of the back at the points where support is needed. Again the work benches or desks may be of a height not suited to the worker, or the light may be insufficient. These are defects which should be remedied by the employer and they are matters which ought to be attended to promptly, for even if they do not impair the health of the worker at once, decreased efficiency is invariably one of the results.

The main cause lying with the worker himself is habit. This habit may have been formed in childhood in the schoolroom, or in early youth when the individual was growing rapidly in height, or it may be the result of constrained positions assumed in the hurry and anxiety to increase the output of work. This is especially true of pieceworkers.

The slouching attitude indicated by the rounded shoulders, the contracted chest, and usually accompanied by the protruding head is found most frequently in hand workers who bend over their work. The occupations especially conducing to this posture are cigar making, shoemaking or cobbling, tailoring, watchmaking, engraving and woodworking. As the worker allows his shoulders to droop forward, his chest is narrowed and the lungs crowded closely together thus cutting off absolutely the possibility of taking a full breath while in this position. An abundant supply of fresh air is essential for keeping the body in good condition. When this supply is diminished the entire organism suffers. Lack of air is however not the only ill effect of such posture for with the chest contracted the diaphragm is forced down and the various organs contained in the abdomen displaced to a greater or less extent producing very frequently constipation and, if nothing more serious, vague digestive disturbances.

Desk Workers Frequently Affected.

With the elevation or depression of one shoulder, the curvature of the spine instead of being backward in the upper portion of the back and forward near the waist line is to one side in the lower portion. This position while allowing one lung to be expanded freely crowds the other lung into a much reduced space producing as an end result decreased aeration of the blood with all its evil consequences just as in a general contraction of the chest. This condition is found very frequently in desk workers, especially those whose chairs and desks are not of the proper height to permit them to perform their work without assuming constrained attitudes. Chairs should be of such a height that when seated well back on the chair the occupant's feet rest flat on the floor, with the legs at right angles to the thighs. A large concern in the Middle West employs a man whose duty it is to adjust the chair of every new employe to fit his exact needs. They report that since employing this plan they have noticed an increase in the amount of work put out and a decrease in the fatigue of the workers. Desks or work benches that are too high or too low induce, in a person who rests one hand or arm on such support, either elevation or depression of the corresponding shoulder. Elevation of one shoulder with corresponding spinal curvature is found also in occupations requiring the long continued use of heavy hammers swung always by the same arm in individuals carrying heavy loads always upon the same shoulder, in porters using one hand more than the other, and in persons tending machines or doing other work requiring prolonged standing. In this latter case the tendency is to rest the body by changing the position. This too often means the shifting of the weight of the body to one leg, elevating the corresponding hip and the opposite shoulder. When the weight is thus habitually shifted to the same leg the accompanying curvature of the spine becomes permanent.

Working Conditions May Correct Slight Curvatures.

These departures from the normal posture appear in every degree from a very slight and almost imperceptible curvature to a marked deformity and produce corresponding deviations from normal health. It is therefore of great importance that every effort be made to prevent the establishment of such conditions, or if once established to correct them. With this in view every employer should endeavor to obtain the best possible working conditions for his employes—suitable seats, proper desks or work benches, sufficient light falling upon the work at the correct angle and frequent change of position in work requiring close application. This alone is however not sufficient, for unless the workman can be made to realize the necessity for correct posture he will be benefited very little. In most establishments

little more can be done than simply to call the attention of all workers to the dangers consequent upon the assumption of incorrect postures, adding to the conditions noted above, the ever increasing susceptibility of the individual to tuberculosis as the supply of fresh air reaching the lungs is diminished. Definite instruction to bend the body at the waist instead of at the shoulders in work requiring close application, will, if followed out, not only eliminate the hump on the back but will surprisingly diminish fatigue.

Plants employing a nurse or welfare worker have a splendid opportunity for carrying on an educational campaign in this line. Not only can general instructions be given through these sources but individual workers can also be picked out and their defects made known and corrected by advising suitable calisthenics or by referring the individual to a physician for treatment. Regardless of what method is pursued in dealing with this important question, two facts should always be borne in mind. One is that a deformity prevented is very much more to be desired than one corrected; and the other is that the sooner a deformity is detected, the easier it is to be corrected and the less serious are the results wrought by it on the individual.

BUREAU OF MEDIATION AND ARBITRATION PARTICIPATED IN THE SETTLEMENT OF 50 LABOR DISPUTES INVOLVING 7,831 WORKERS DURING NOVEMBER AND DECEMBER, 1916.

The Bureau of Mediation and Arbitration participated in the settlement of 50 labor disputes involving 7,831 workers in various sections of Pennsylvania during the months of November and December, 1916.

Patrick Gilday, Chief of the Bureau of Mediation, personally aided in the settlement of 37 of those disagreements which occured in the bituminous mining field of Pennsylvania and involved 6320 employes. Thirteen other labor disagreements adjusted with the aid of representatives of the Bureau of Mediation and Arbitration during November and December were: four strikes in tanneries, involving 754 men; three strikes in electrical workers, involving 35 men; two strikes of brick makers, involving 250 men and one strike in each of the following classes of industry involving respectively the numbers of employes indicated, in street railways, 350; wood workers, 50; machinists, 39; iron and steel, 33.

Labor disagreements still pending on January 1, 1917, and in which the Bureau of Mediation was aiding in efforts to adjust, were—seven disagreements in bituminous mining sections, involving 1623

workers, a disagreement involving 1,000 building trades workers, another involving 65 glass workers and another involving 60 iron and steel workers.

The Bureau of Mediation and Arbitration of the Department of Labor and Industry, acts for the Commonwealth, in a neutral conciliatory manner to adjust labor disagreements which result in wage losses to employes and production losses to employers. The Bureau has been heavily taxed by the demands upon it from all sections of Pennsylvania virtually from the time of its creation in the Department.

The Bureau is composed of Patrick Gilday who has been assisted principally by James A. Steese and other Department members assigned to mediatorial work, from other Bureaus, by Commissioner Jackson.

The work of the Mediation Bureau is one of the most important activities of the Department of Labor and Industry, especially from an economic standpoint. The activities of the Bureau are to promote harmony between labor and capital and in that relation its work directly affects the continuity of wages of employes as well as the productions of mines and factories.

ACTIVITIES OF THE BUREAU OF EMPLOYMENT DURING THE MONTH OF NOVEMBER.

During the month of November, there was an increase over October in placements, estimated at 511. The number for November is 2199 as against 1688 for October. The number referred to positions in October was 1968; in November, 2550, an increase of 582.

The placement work for the various offices of the Employment Bureau, for the month of November, is contained in the following table:

Bureau of Employment—Placement Work for November.

	Number for Each City.					
	Harrisburg.	Philadelphia.	Pittsburgh.	Johnstown.	Altoona.	Grand Total.
Persons asked for by employers,	494	1,327	1,239	232	83	3,375
Applications for positions,	401	1,725	941	94	32	3,193
Persons referred to positions,	302	1,393	754	80	21	2,550
Positions filled,	255	1,153	703	67	21	2,199

A consideration of the percentages for the different classes of work in the applications for positions and orders from employers, gives interesting comparisons. In November, 22.9 per cent. of the total number of applications for work was for laboring jobs; 33.5 per cent. of the orders was for laborers, showing the demand greater than the supply. In October, the relation was similar:—12.8 per cent. of the applications was for work as laborers; 18.1 per cent. of the orders was for laborers, but in that month, as is noticed, there was a smaller percentage of both applications and orders for this class of work.

In November, there was a percentage of 4.7 of the total number of openings for carpenters and only 1.5 per cent. of the applications was for this work. For machine hands, the demand was only 5.9 per cent. of the total and the applications, 9.5 per cent. This condition is in contrast with the month of October when orders for machine hands were 17.3 per cent. of the total and applications for this work, 12.9 per cent.

The following table gives the classes of work having the highest percentages of openings, and applications for the month of November, in both the men's and women's departments:

Totals for All Offices for the Month of November.

MEN'S DEPARTMENT.

Classes of Work Having Highest Percentage of Openings.

Laborers,	33.5% of the total.
Machine workers,	5.9% of the total.
Factory workers,	4.8% of the total.
Carpenters,	4.7% of the total.
Clerks, stenographers and typists,	3.7% of the total.
Plumbers, steam and pipe fitters,	3. % of the total.
Waiters, butlers and valets,	1.4% of the total.
Salesmen and solicitors,	1.3% of the total.
Bookkeepers and accountants,	1.2% of the total.
Boiler makers,	1.2% of the total.
Farmhands and managers,	1.2% of the total.
Electricians,	1.1% of the total.

Classes of Work Having the Highest Percentage of Applicants.

Laborers,	22.9% of the total.
Machine workers,	9.5% of the total.
Clerks, stenographers and typists,	5.3% of the total.
Bookkeepers and accountants,	2.5% of the total.
Salesmen and solicitors,	2.5% of the total.
Waiters, butlers and valets,	2.4% of the total.
Boiler makers,	2.3% of the total.
Plumbers, steam and pipe fitters,	2.1% of the total.
Carpenters,	1.5% of the total.
Farmhands and managers,	1.5% of the total.
Electricians,	1.3% of the total.

WOMEN'S DEPARTMENT.

Classes of Work Having the Highest Percentage of Openings.

Domestic and personal service, ...42.1% of the total.
Housekeepers and general houseworkers, ...25.7% of the total.
Cooks, ... 8.7% of the total.
Day work, ... 6.6% of the total.
Clerks, ... 6.1% of the total.
Waitresses, ... 3.8% of the total.

Classes of Work Having the Highest Percentage of Applicants.

Domestic and personal service, ...36.3% of the total.
Housekeepers and general houseworkers, ...18.9% of the total.
Day work, ...16.6% of the total.
Clerks, ...13.1% of the total.
Cooks, ... 8.2% of the total.
Waitresses, ... 4.8% of the total.

Placement Work of the Harrisburg Office for the Month of November.

MEN'S DEPARTMENT.

Classes of Work Having the Highest Percentage of Openings.

Laborers, ...34.4% of the total.
Carpenters, ...14.3% of the total.
Plumbers, steam and pipe fitters, ... 6.6% of the total.
Factory workers, ... 5.3% of the total.
Machine workers, ... 4.2% of the total.
Electricians, ... 2.5% of the total.
Farm hands and managers, ... 2.5% of the total.
Waiters, butlers, valets, ... 1.2% of the total.
Salesmen and solicitors, ... 1.1% of the total.
Clerks, stenographers and typists, ... 1.0% of the total.
Bookkeepers and accountants, ...2% of the total.

Classes of Work Having the Highest Percentage of Applicants.

Laborers, ...45. % of the total.
Clerks, stenographers and typists, ... 7.5% of the total.
Waiters, butlers, valets, ... 4.6% of the total.
Carpenters, ... 2.8% of the total.
Farm hands and managers, ... 2.7% of the total.
Bookkeepers and accountants, ... 2.3% of the total.
Machine workers, ... 1.7% of the total.
Electricians, ... 1.7% of the total.
Plumbers, steam and pipe fitters, ...5% of the total.

WOMEN'S DEPARTMENT.

Classes of Work Having the Highest Percentage of Openings.

Domestic and personal service, ...37.0% of the total.
Day work, ...11.2% of the total.
Clerks, ... 8.9% of the total.
Waitresses, ... 5.6% of the total.

Classes of Work Having the Highest Percentage of Applicants.

Domestic and personal service, ...29.1% of the total.
Day work, ...16.6% of the total.
Clerks, ...14.6% of the total.
Waitresses, ...10.4% of the total.

Placement Work of the Philadelphia Office for the Month of November.

MEN'S WORK DEPARTMENT.

Number laborers asked for, ...158 or 15.7% of the total.
Number semi-skilled asked for, ...275 or 27.4% of the total.
Number skilled asked for, ...392 or 39.1% of the total.
Number technical asked for, ... 4 or .7% of the total.
Number clerical, commercial and sales asked for, .173 or 17.1% of the total.
Number labor registering, ... 88 or 12.2% of the total.
Number semi-skilled, ...180 or 24.9% of the total.
Number skilled, ...336 or 46.6% of the total.
Number technical, ... 5 or .8% of the total.
Number clerical, commercial and sales, ...112 or 15.5% of the total.

WOMEN'S AND GIRLS' DEPARTMENT.

Number sales and office workers, asked for, ... 48 or 14.8% of the total.
Number domestic and personal service, asked for, .176 or 54.1% of the total.
Number factory workers, asked for, ...101 or 31.1% of the total.
Number sales and office workers, registering, ... 56 or 26.6% of the total.
Number domestic and personal service, registering,123 or 58.6% of the total.
Number factory workers, registering, ... 31 or 14.8% of the total.

Placement Work of the Pittsburgh Office for the Month of November.

Classes of Work Having the Highest Percentage of Openings.

Laborers, ... 68 %
Tradesmen, ... 18 %
Hotel clerks, etc., ... 3 %
Miners, ... 4 %
General clerks, ... 3 %
Domestics, ... 2 %

Classes of Work Having the Highest Percentage of Applicants.

Tradesmen, ... 31 %
Clerks, ... 17 %
Workers in hotels and restaurants, ... 7 %
Laborers, ... 8 %

As an evidence that the service of the State Employment Bureau is bringing into contact employer and employe, the following incident may be cited which occurred in the Harrisburg office:

A woman in Pittsburgh having learned, through a friend in Harrisburg, that the State Department of Labor and Industry has, in active operation, an Employment Bureau, wrote to the Bureau asking whether or not its activities extended throughout the State, and if so, whether a relative living in Philadelphia could be supplied certain help.

The position opened was an excellent one for a steady, reliable, middle-aged woman to take charge of a household consisting of three women who wanted to be relieved of the responsibilities of housekeeping. Good wages and pleasant living conditions were offered to the person who could qualify for this position.

Several days later a woman, who had just moved from Oklahoma to Harrisburg, applied at the Bureau for work as a matron or housekeeper. Her qualifications, experience, references, and general appearance convinced the Bureau that she would be a proper person to send to the position. She was directed to communicate immediately with the employer, and the latter notified us that she had done so. As this occurrence is very recent, the result of the communication between the employer and the woman has not yet been made known.

A considerable number of the unskilled applicants in the Men's Division of the Harrisburg office during November, were seeking "inside" work. The storing away of automobiles, trucks, etc., for the winter, and the closing up of some lines of construction work threw quite a number of men out of jobs. In seeking new situations it was but natural that they should make efforts to be placed where they would escape the rigor of the winter's cold and snow.

If physically fit, such applicants have been easily placed with one of the large industrial concerns which co-operate with the Bureau, and while usually no promise is made of continuous "inside" employment, the work is generally of such nature that the applicant is in the factory or mill, part of the time at least.

The Lancaster Chamber of Commerce has opened up an employment office in that city, in cooperation with the State Employment Bureau. The DuBois Chamber of Commerce is now completing their plans for a similar office. It is hoped that this method of cooperating with the State will become general.

INDUSTRIAL BOARD SETS SEAL OF STATE APPROVAL ON TWENTY-NINE DIFFERENT SAFETY DEVICES ON RECOMMENDATION OF COMMITTEE OF APPROVALS.

Twenty-nine separate safety devices, submitted to the Committee of Approvals of the Industrial Board, have received State certificates of approval. This certificate was issued after a working model of the device had been submitted to the Committee of Approvals with two unmounted photographs of the device and a copy of the approval of a testing laboratory or similar institution of recognized standing.

The Committee of Approvals, after rigorous investigation, of all devices submitted, either rejected the device, if not qualified for State approval, or recommended to the Industrial Board that an approval certificate be issued. The working models and photographs of the approved devices will be placed in the museum, maintained by the Department of Labor and Industry, for the exhibition of certified safety devices.

The Committee of Approvals, which investigates each model submitted, consists of the following:—William Young, Member of the Industrial Board, Chairman; Lew R. Palmer, Chief, Bureau of Inspection; Dr. Francis D. Patterson, Chief, Division of Hygiene and Engineering; R. M. Pennock, Safety Engineer; John S. Spicer, Chemical Engineer; John H. Walker, Civil Engineer; all of the Department of Labor and Industry and L. R. Johnston, Chief Inspector, Pennsylvania Compensation Rating and Inspection Bureau; F. Herbert Snow, Chief Engineer, Public Service Commission and William J. Morgan, Deputy State Fire Marshal.

William Lauder, Secretary of the Industrial Board, is secretary of the Committee of Approvals.

The approved devices, numbered according to the sequence in which the approval was issued, are as follows:

Approval Certificates Issued.

No. 1. Simplex Surface Contact Company, Harrisburg, Pa.—Contact Box showing a magnet and grounding system.

No. 2. Noe-Wadlow Company, Philadelphia, Pa.—Metal Guards.

No. 3. Edward Warburton, Stead Miller Company, Philadelphia, Pa.—Safety Loom Lock.

No. 4. Merchant & Evans, Philadelphia, Pa.—Evans' "Almetal" Fire Door.

No. 5. Automatic Film Rewinder Co., Harrisburg, Pa.—Film Rewinding Machine.

No. 6. Northern Tool Company, Utica, N. Y.—Self Closing Water Gauge.

No. 7. Pathescope Company, New York City.—Picture Machine.

No. 8. Atlas Educational Film Company, Philadelphia, Pa.—Picture Machine.

No. 9. Life Saving Device Company, Chicago, Ill.—Lungmotor.

No. 10. Angell Elevator Company, Boston, Mass.—Interlocking Device.

No. 11. Albro-Clem Elevator Company, Philadelphia, Pa.—"Ritter" Interlocking Device.

No. 12. Shur-Loc Elevator Safety Company, New York City.—Interlocking Device.

No. 13. Standard Elevator Company, Philadelphia, Pa.—Interlocking Device.

No. 14. Kaustine Company, Buffalo, N. Y.—Sanitary Closet.

No. 15. W. B. Bertels Company, Wilkes-Barre, Pa.—Fireproof Receptacle.

No. 16. Pitts & Kitts Mfg. & Supply Co., New York City.—"Oswego" Safety Water Column.

No. 17. Gardner Grate Company, Boston, Mass.—Gardner "I Gard."

No. 18. Pending.

No 19. Pratt Food Company, Philadelphia, Pa.—"Brandt" Safety Guard For Printing Presses.

No. 20. American Abrasives Metals Co., New York City.—Material for Non-Slipping.

No. 21. Jenkins Elevator Company, Philadelphia, Pa.—Interlocking Device.

No. 22. American La-France Fire Engine Co., Pittsburgh, Pa.—National Smoke & Ammonia Helmet.

No. 23. Albro-Clem Elevator Company, Seventh Street & Glenwood Ave.—Cable Fastening for Elevators, "Crosby Clamp."

No. 24. Ohio Blower Company, Cleveland, Ohio.—Automatic Draft Regulator, "Swartout Ventilators."

No. 25. Never Slip Clamp Company, 141 Broadway, New York City.—Safety Clamp for Handling Boiler Plate and Sheet Metal.

No. 26. Frank Stutzman, Williamsport, Pa.—Round "Safety Cylinder Head."

No. 27. Russell & Erwin Mfg. Co., New Britain, Conn.—"Russwin" Panic Bolt & Lock.

No. 28. Surety Guard Company, 62 East Lake Street, Chicago, Ill.—Surety Guard for Circular Wood Saws.

No. 29. Patent Scaffolding Company, 647 W. 50th Street, New York City.—Scaffolding Device.

No. 30. F. A. Hardy & Company, 29 East 22nd Street, New York City.—"Noviweld" Goggles.

BUREAU OF STATISTICS AND INFORMATION SENDS PRODUCTION REPORT BLANK FORMS FOR 1916 TO MANUFACTURERS THROUGHOUT PENNSYLVANIA.

Blank forms for the reporting of production statistics ,for the year 1916, to the Bureau of Statistics and Information of the Department of Labor and Industry, have been sent to approximately 25,000 manufacturers in all sections of Pennsylvania. The law requires manufacturers to fill in these blank forms and return them to the Department for the compilation of production statistics. Penalties are cited in the law for failure to make such report.

The Act of June 2, 1913, requires the Commissioner of Labor and Industry to collect and compile statistics of Pennsylvania's industries. These statistics are annually collected and compiled through the Bureau of Statistics and Information of the Labor and Industry Department. The Act requires that manufacturers file their reports within thirty days from the date of receipt of blanks.

The co-operation of industrial concerns of the Commonwealth has been such in the past that in no instance has it been necessary to resort to the severe penalties authorized by the Act, a fact most gratifying to those responsible for this important work.

The principal information required, in the reports, includes the total number of employes in each industry, nationality and sex of employes, wages paid, number of minors employed, number of office workers and employes on regular salaries, number of establishments, total amount of capital invested, market value of production during the year and average number of days plants were in operation.

These blank report forms are sent to productive industrial concerns, coal companies and public service corporations so that, when the compilations are made statistics are available covering each of the more than 300 products, manufactured in Pennsylvania.

For the year 1914, reports were received from approximately 21,000 plants and for 1915 the number was approximately 23,000. For 1916 it is expected that almost 25,000 reports will be received.

Among the additional data, required in the report, are the following items:—number of establishments; total amount of capital invested; market value of product; average number of days in operation; number of wage earners by nationality and sex; wages paid according to sex of workers; wages paid boys and girls under sixteen; wages paid men and women on salaries and on office work; number of wage earners by months showing the number of males and females employed in each month of the year.

MONTHLY BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

JOHN PRICE JACKSON, Commissioner.

A BULLETIN OF INFORMATION FOR THE PUBLIC

CONTAINING:

First two days' session of Fourth Annual Welfare and Efficiency Conference

FEBRUARY, 1917.

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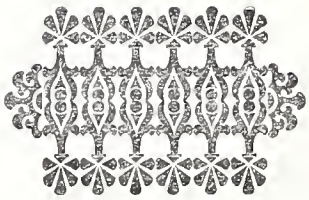

ADDRESSES AND DISCUSSIONS

at the first two days' sessions of the

FOURTH ANNUAL

WELFARE AND EFFICIENCY CONFERENCE

of the Department of Labor and Industry

Harrisburg, Pa., November, 1916.

TUESDAY, NOVEMBER 21, 1916.

MORNING SESSION—9:30 O'CLOCK.

CHAIRMAN, JOHN PRICE JACKSON, Commissioner of Labor and Industry.

OPENING ADDRESS

By JOHN PRICE JACKSON, Commissioner of Labor and Industry, Harrisburg, Pa.

CHAIRMAN JACKSON: It is an honor to open this Fourth Annual Industrial Welfare and Efficiency Conference. Starting four years ago as a comparatively crude and informal gathering of people it has reached a position of prominence and importance in the forwarding of the best interests, industrially, in this State. The keynote,—as I understand it this morning,—of the Conference this year is the unity of the interests of both employers and employes. Sitting here before me are leaders of industry, known throughout the world; great labor leaders; and important officials of our Government—as representing all bodies of the people. We are all gathered here for one purpose, the betterment of our great Commonwealth, particularly along industrial lines, and that betterment comes primarily through

the prosperity of our industries. I expect during the next few years to see our great National and State Manufacturers' Associations,—of which there are many doing fine work,—call into their councils the great labor leaders associated with the same respective lines of industry; and I expect to see during the next few years the great labor organizations calling into their councils the great industrial leaders of the State and country. I expect to see through just such meetings as this and such relations as I have suggested a rapid elimination of the misunderstandings which cause the bickerings and losses which have been going on during the last decades.

This morning we deal with three very concrete and very important matters relating to the prosperity of industry and industrial workers. We take up possibly as the most extensive object of consideration that of accidents. At our Conference last year it was prophesied that in Pennsylvania during 1916 there would probably be about 300,000 industrial accidents; that there would possibly be 3,000 industrial deaths; that there would be from 25,000 to 50,000 permanent mutilations, which either partially disabled the worker or completely disabled him for life. Gentlemen, if you will walk through the Senate Chamber and turn to the right and go into the offices of the Bureau of Statistics combined with the Bureau of Compensation, you will see there reports that prove that prophecy to be absolutely correct; and yet our people are in a stupor or they might just as well be in a stupor so far as the statement of what we are having in the way of injuries, or of what we are doing in the way of making widows and orphans is concerned. We do know that during the time of infantile paralysis, we quarantined this whole State; we shut down our Public Schools. We were in a state of great anxiety; everybody was wide awake, and every nerve strained to prevent the spread of that dread disease. Yet that began with the warm weather, it stopped with the cold weather, and there was no period during the ravages of that disease when it for any day equalled or began to equal the loss or suffering that has been occasioned by industrial accidents; and our industrial accidents go on from day to day, week to week, month to month, and year to year; and we eat our breakfasts, our dinners, and our suppers, and probably the subject is never mentioned. It is up to you gentlemen to-day, and this week, to take one more step to arouse our people to the appalling conditions. We must and we will overcome these conditions just as we have made travel on the railways safe, and have made a safe and sane Fourth of July.

We will discuss this morning Compensation, a great business system for helping financially the man who has been hurt or helping his dependents, his widow or his orphans. We have made a great system of it. Covering tens of millions of business manipulations for

a year, it has gone into working with the co-operation of employers and employes without a ripple. Our Compensation Board has given decisions in a new field which have met with almost universal satisfaction; but how much more important, Gentlemen of the Conference, is it to prevent the accidents. It is right and humane to compensate for them, but let us prevent them.

The next item which we are going to deal with in this week's Conference is that of employment. Probably in no field of business do we as a people lose so much as by our crude methods of employment. In the bringing of the man to the job and the job to the man the employe has no businesslike way of finding the position for which he is best fitted; the employer has no businesslike way of finding the man to fill the position which he needs to fill; and I say that, both as an employe and as an employer, and there is not a man in this room, who has had experience in employment, who does not know that our methods of employment are most crude and wasteful. We must have a system. Every industrial centre in this State must have an employment bureau, manned by competent, intelligent people. The State must act as a supervising agency. The State must aid these local communities with actual cash. The State must act as transfer agent from one local agency to another local agency, and then the United States must join in and act in the same capacity to the several States that the States act to the several local industrial communities. When we have worked out such a system, so that we know the positions that are vacant and know the men available and can, without loss of time. have the right men at the right place, then we shall have taken a great step towards adding to the wealth and prosperity of each one of us and our community as well.

We must reduce the seasonal employment and the turnover of labor. You know and I know that, from the turnover in a year, the change of labor amounts to fifty or one hundred or even more per cent. Men come and men go and instead of gradual growing efficiency as time goes by the man loses his position, goes into another and must be broken into the new position and then into another and so on. That great turnover of labor is unnecessary. It has been proved to be unnecessary. It has been proved unnecessary in many industries where the work lasts for two or three months at a time and then there are two or three months of slack time. It has been proved to be unnecessary to have that seasonal condition, by proper selling methods, by proper storage and manufacturing methods. By the proper placing of the proper man in the proper place we are going to overcome both of these serious wastes of human energy and wealth.

Now we are going to do another thing. It does not come up in to-days's meeting, but I want to speak of it a moment. It is most

important. In our local communities we have got to find out how many and what kind of industries are required to enable the family unit to achieve the greatest production for the family prosperity, for the prosperity of the industry and the community, and for the prosperity of the State. One town we investigated last year had work for all the men but none to speak of for the women. Another community had work for the children and women but very little for the men—a pure waste of labor which was available. We must find out what is needed to round out these communities. The community itself, with the help of the State, should do this. We must find out what fuel the community has, what transportation facilities, what water supply, how near the markets are, etc., in order that we may gather in the right industries and know that we are prepared to make these industries successful. We must gather more than our industrial directory, which is now being printed stating the names of the industrial companies of Pennsylvania, and in general their product—we must have booklets of every industry giving the full description of what Pennsylvania produces, and where, and how, and the quality. When we have these booklets we must find where the markets are for Pennsylvania's industries, not only in this country, but throughout the world, and when we have found the markets for Pennsylvania industries we must bring the market and the manufacturer up in Allentown, or down in Chester, or out in Allegheny, together, whether the market be in Timbuctoo or in Alabama, or whether it be in Pennsylvania. That is the work that employers, employes and the public need to join in, if we are to advance to wealth and prosperity and happiness.

We started last year the continuation school. There has been much objection to the Child Labor Law, possibly the objectionable features can be corrected; but Pennsylvania in her continuation schools already has gone far in advance, in just one year's work, of similar work in any other State. One of the greatest experts in this work, a great manufacturer, a successful manufacturer, states that in his judgment Pennsylvania is a leader in the United States and is destined to reap enormous benefits from the system it has established. We must make the continuation schools and the factory industrial schools of maximum effect, teaching the youngster to be ready to enter industry. Then on top of that, gentlemen, we must have means whereby that youngster who is going out of the school may be located in a place for which he is by nature and mind and body fitted and not be allowed to go out like a boat without a rudder, tossed upon the sea and bound to light in a current or channel which will carry him on the rocks. I do not know of anything in this whole State that is more important than that one thing of industrial and continuation schools, in spite of the other important matters which I have brought

to your attention and with which we will deal more or less during this week.

I told the Governor, or rather told the people in his office, to have the Governor here, if convenient to him, at ten o'clock. I have appointed a committee including Messrs. William P. Eales, James Wright and L. F. Loree to wait upon him and would appreciate if the committee would now adjourn and accompany the Governor to this room.

I should prefer to introduce the next speaker as the man rather than the Governor, because when you deal with a big man his career starts at an early age and develops as he goes along. As time goes by he arrives in different situations and his possibilities for great work may become greater than they were at an earlier period; but nevertheless it is a continual growth of usefulness.

During the past two years the Governor's opportunities to do great service to this Commonwealth along the lines of helping the poor people, and the employe, as well as the prosperity of industry, have been enormous and he has grasped them, and has started great movements. I predict that during the remainder of his term there will be equally great advances, and I further predict that as his life goes on and his years become riper, just so the harvest from his guiding spirit, his high ideals and ethics will be of more value to all of the people of the Commonwealth of Pennsylvania.

I take great pleasure in introducing to you Martin G. Brumbaugh, Governor of the Commonwealth of Pennsylvania.

ADDRESS OF WELCOME.

By GOVERNOR MARTIN G. BRUMBAUGH.

GOVERNOR BRUMBAUGH: Mr. Chairman and my friends, I recall with a very great deal of pleasure the meeting of this Conference in this room one year ago when we undertook, and I think with some degree of success, to bring together all the men and women of this Commonwealth who are interested, above everything else, in the welfare of our great industrial army in Pennsylvania; which army includes, not only the men who toil in our industries, but also the men who, representing our great corporate life, plan out in a large way the opportunities for employment of the people who toil in Pennsylvania. I believe that out of that conference of joint good will there has come a very great deal of help to the people of Pennsylvania.

and it is therefore with unusual pleasure that I welcome you here once more to continue your conferences and to add, if possible, from your experience during the year, something to the aggregate of things that we are doing in Pennsylvania to safeguard our people in their hours of toil. Now as you think of this problem great and momentous issues arise in your minds. It is inevitable that it should be so, because, with no stretch of the fancy whatever, you can think that in Pennsylvania with every workday there is an army of approximately two million people who move into what may be called the zone of danger and who, after their hours of toil, move back from that zone of danger, and it is the movement in, and out, and the procedure when in the zone of danger, that causes all of us very great concern. I know of no army like that anywhere else in the industrial world, and I know of no Commonwealth that is more anxious to throw around this army the protecting care of beneficent law and supervision than is the Commonwealth of Pennsylvania. We are not only anxious to see that the things already provided shall be made operative at every point, but we are perfectly open-minded and perfectly willing thoughtfully to consider any and every suggestion looking to the betterment of the industrial conditions of this great Commonwealth of Pennsylvania.

I want also to say in that connection this thing: That we are gradually moving in this state to a new conceit of our duty to ourselves as a Commonwealth. Instead of counting over our material assets and our material profits in the marketing of these natural resources we are beginning to see that the great glory of Pennsylvania lies not in that direction but in the beneficent vision which we entertain for the human asset which really makes the Commonwealth of Pennsylvania. And anything that promises the welfare of our people or adds to their health, to their happiness and prosperity, that thing is wholly beneficent and wholly desirable and in whatever way we can produce fundamental safeguards to the comfort and health of these people, that way we should steadfastly pursue; therefore, this gathering to-day, in my opinion has a very vital duty resting upon it. And I wish to record, so far as my observation goes, our very great satisfaction here in the administration of the laws of your Commonwealth, our very great satisfaction at the manner in which all the people of Pennsylvania have co-operated to bring about a greater degree of safety and of happiness to our entire population. It has been to me, during the year, a source of continued gratitude that all our great corporations that employ thousands upon thousands of our people have with unanimity and with great cheerfulness loaned themselves, after long years of study of this problem, to the working out of safeguards and protective agencies of the greatest value and moment. We owe these people a very great deal of gratitude, and we

should be indeed false to ourselves if we did not acknowledge that debt and appreciate the fact of the co-operation of these men in strategic position who are working out this problem from day to day in the interest of their own corporations and in the interest of the great Commonwealth of Pennsylvania.

I also wish to record here my great satisfaction that, in the operation of the Workmen's Compensation Law and the Child Labor Law and the other humane legislation that has recently been put in operation in the Commonwealth, the people of Pennsylvania, the entire population, regardless of their occupation or their relation to our industrial activities, have substantially supported us in the enforcement of these laws and what is more, have given unreserved approval to the enactment of these laws which you and I know were no small questions in the minds of the people in parts of Pennsylvania; in other words, we have accepted these things as a part and necessary policy of the great awakened Commonwealth. To-day, in Pennsylvania, it can be said with justice, we are doing more for our working people than any other Commonwealth in the Federal Union. I should like to do a vast deal more than we are even now doing for our people; therefore, here you have an opportunity to formulate your judgments and to express them in terms and resolutions and laws which will work out a larger and larger field of care and of conservation of human life in our splendid Commonwealth.

I should like also to point to another problem that seems to me to lie very close to the one I have just mentioned. We are in Pennsylvania, as elsewhere in this Union, gradually lessening the hours of toil for our people; we are increasing the hours of leisure without making any corresponding provision for the right use of this leisure; and so far as the moral attitude of labor is concerned the crimes of society are committed not by people in their hours of toil but by the people in their hours of leisure, and it is the business of the Commonwealth, and it is the business of all of us who love the Commonwealth to make it easy for our people when not at work to obey the law and to live clean, righteous lives, and so bit by bit I hope to see appearing in our legislative halls throughout this country increased interest in the problem of conserving the welfare of our people when they are not employed in toil. It is a true proposition that unless a man uses his leisure properly he is not fit to return to his toil the following day, no matter where he works or under what condition he toils; so that it becomes a vital matter just as an asset of the Commonwealth to see to it that when our people are recreating they shall be just as careful in the conservation of their lives and of their strength as they are when they are working in Pennsylvania. There are signs here and there of an awakening in that direction. In our

cities recreation houses and other agencies have been established, to which our people may go when they are not at work and enjoy themselves in legitimate ways and return the following day to their toil, refreshed and strengthened and encouraged to render a larger and better service. Something like that in a broader way should be a subject for enactment by the Legislature. If we can do that we shall do the largest thing for the moral status of labor.

I wish also to congratulate you this morning upon the fact that here in Pennsylvania, we are gradually taking away from this danger zone, to which I referred at the beginning of my remarks, the things that make it dangerous for our people to work. It is of course impossible to remove all of these or remove those that now exist as rapidly as we should like to do, and yet by the steady pressure of public sentiment and proper enactment of law we can gradually clear a path and make a safe one through which labor may pass from day to day. If we can do that we shall do a very large thing for our Commonwealth.

It is fine to see you here and to enjoy for a minute your good will this morning and to give you in your conferences to-day and to-morrow and while you are in Harrisburg, every word of encouragement and of good will which the administration can offer you and to pray the blessing of God upon your minds and spirits that you may evolve large, fine, wise issues for the people of Pennsylvania.

CHAIRMAN JACKSON: I presume there is no administrative measure which is of more widespread interest than is our Compensation Law. Our Governor appointed, after great study and care, three men: Mr. Mackey, Mr. Leach and Mr. Scott as a Board to give the decisions and handle the administration of this Law. As he said a few minutes ago, I believe it has been done with unusual efficiency and with unusual care and satisfaction to the whole people. It therefore gives me great pleasure to introduce to you the Chairman of that Board who has, with his fellow members, devoted many night hours as well as day hours in helping to make that law the success which it already is.

MR. MACKEY: Mr. Chairman and Ladies and Gentlemen, my information was that this day or at least this morning session was to be very largely given over to this theme of workmen's compensation, and therefore I took it to be my duty to lay before this assembly first, as briefly as possible, the conditions that prevailed before the enactment of this Law, the causes that led up to the compensation feature being incorporated in the Pennsylvania statutes, some of the workings of the administrative functions brought into execution by this Law, and then some of the results attained; so that I might be able to lay all the features connected with this law before this body for intelligent discussion. In order to do that it was necessary for me to write a paper. Now I am sure, one of the most distasteful things in the world I can do, is to read a paper. I rather enjoy speaking to men and women and I dislike to do as I must in this case; but if you will bear with me I will assure you that you will be no more uncomfortable than I will be myself.

TEN MONTHS' EXPERIENCE UNDER THE PENNSYLVANIA COMPENSATION LAW.

By HARRY A. MACKEY, Chairman, Workmen's Compensation Board.

On February 12, 1912, a mere stripling of a boy, less than 17 years of age, was given employment in a roundhouse of one of the great railroad companies operating its lines in the State of Pennsylvania. He had been thus employed for less than thirty days. During that short period he had worked at night, going into the roundhouse from the street, working there all night and leaving by the door through which he entered. He had never been upon the company's property beyond that enclosure.

Immediately to the north of the roundhouse there were at least thirteen tracks in the company's freight yard. These branched off from one track that connected with them and was called a "ladder." When cars were brought in they were left in a portion of the yard called the "hill." There they were separated into different trains destined to points to which the cars were consigned.

One night this boy was directed by the man in charge of the roundhouse to go out into the yard and assist another man in the overhauling, cleaning and preparing of engines for service that had been brought in and left in the part of the yard beyond these numerous tracks at a place called the "farm." The boy subsequently stated that the night was perfectly black and a heavy fog hung over the yard. He was unacquainted with the dangers all about him for no one had warned him of them or instructed him how to avoid them. He was unfamiliar with the location of the tracks and with the movement of the cars. He subsequently swore that while slowly groping about under these conditions, striving to obey the orders of the man who had directed him to meet an engine at a certain point in the yard, he was suddenly struck by a freight car that was being run through that yard without a brakeman, or a light, or any method of warning a workman of its approach. It was subsequently shown that this car had been shunted from that part of this great maze of tracks called the "ladder" being given a great momentum by a shifting engine, and then allowed to run by itself. The boy stated at the trial of his case that he was acting as carefully as he knew how, that he was constantly looking in both directions, and that he had seen nothing to advise him of any danger, when suddenly this car rushed by

him and he was knocked down by one of the journal boxes and thrown under the wheels. The result was that he lost one leg, while the bones of the other were so severely shattered that when life finally was spared to him, even that leg was many inches shorter than normal.

Now let us see what difficulties were in store for this boy in his efforts to secure some compensation?

Let it be remembered that this accident happened in March, 1912. His case dragged along in various courts until he was finally denied a verdict four years later. The great corporation for which he worked denied any responsibility. He employed an attorney and took his case into court. When it first came on for trial it was found that he had sued under the Federal Liability Act of 1908, therefore it was necessary that the evidence should establish that both the company and the boy were, at the time of the injury, engaged in interstate commerce, in other words, in doing something that was directly connected with the transportation of commodities from state to state. It was perfectly apparent at once that he would be unable to esablish his case in this respect for when he was struck he was left crushed, bleeding and apparently dying as the car sped on. He was compelled to rely on the company's employes as witnesses. He had no way of identifying the car and the company, of course, would volunteer no information. The court allowed the case to be discontinued so that it could be started in some other form in the hope of doing some substantial justice to the boy.

Suit was instituted again and the boy's attorney drew the statement of claim relying upon both the duty which the employer owes to the employe under the Act of Congress and in addition set forth a violation by the company of the common law of Pennsylvania. The case was tried under the greatest of difficulties, but finally a jury awarded the boy a verdict, only to have this hope and comfort for the future snatched from his outstretched hands by a court-in-banc determining that because his lawyer had set forth both of these claims, and inasmuch as Congress had usurped the field of litigation in railroad interstate commerce cases involving negligence, then the lawyer's mistake was fatal. The Court held that pleading the common law liability was a mere surplusage and could not enlarge the field of the railroad company's liability nor bring any help to the boy. Judgment was accordingly entered for the company. Then the case went to the Supreme Court and that body reversed the lower court twice in the same opinion, for it said, that the lower court was wrong and that the pleader was right and that there was sufficient evidence to go to the jury on the question of the violation of the employer's common law obligation towards its employe. "But" said this Court, "the boy was guilty of contributory negligence," thus declaring that the trial judge

was again wrong for sending the case to a jury, but reaching the same result as far as this unfortunate boy was concerned. He received no money either way.

This is a fair sample of the situation of the injured employe in Pennsylvania before the first day of last January. The recital of the foregoing facts and the inferences naturally drawn therefrom must not be used as a criticism of our courts nor even of the employer. The courts are sworn ministers of the law. They must interpret it as they find it and administer it as it is written in accordance with their best understanding. A great corporation, of course, had a legal right to invoke in its own defense all the technicalities of the law to avoid the payment of money even though a few dollars would have alleviated the suffering and let a little sunshine into the life of one who had been so cruelly injured in its employment.

What then does this case illustrate and what were the technical defenses employed that modern humanity decreed must be abandoned? This case is one of the latest decisions of Pennsylvania's Supreme Court. It is typical of the thousands that emphasized the evils of the old system and helped to swell the cry to humanity for a new one. From the days of the proprietary an employe injured in the course of his employment for his master could recover nothing if the trial judge could discover any evidence that would establish that the employe himself had been negligent in the slightest degree, because the doctrine has always prevailed in Pennsylvania that there can be no degrees of contributory negligence and that no matter how negligent the master might have been if, in a moment of mental lapse or at a time of weariness when the body was less able to respond to the promptings of the brain, a mishap had taken place, the injured employe could not recover if any fault could be attached to him; or, if the same tribunal could discover that the unfortunate man had been injured because of something that was done by the man who worked alongside of him and over whom he had no control, nevertheless he could not recover. Again, if the man who had lost a leg or an arm or had been maimed in any other way finally passed these critical stages in his case, then there was always summoned to the aid of the master his greatest source of immunity, namely, that the accident had been caused by one of those dangers incident to the prosecution of the business itself which the employe in his contract of hire had, under the law, undertaken to assume. Although the little group of provincial employers and employes who worked in small numbers and whose undertakings were primitive and most elementary, had advanced to 2,000,000 red blooded men and women as

workers and to 200,000 employers, nevertheless, the rigors and inhumanities of the colonial doctrine of practical immunity for the employer because of the injuries to his employe still prevailed up to the first day of the present year.

The Legislature of Pennsylvania as far back as April 7, 1807, had passed an Act enjoining the Judges of the Supreme Court of Pennsylvania to examine and report to the next Legislature which of the English statutes were then in force in this Commonwealth and which of these statutes in their opinion ought to be incorporated into our statute law.

In accordance therewith Chief Justice Tilghman and Justices Yates, Smith and Brackenridge on the fourteenth day of December, 1808, subscribed to a most remarkable report—"To the Honorable Senate and House of Representatives of the Commonwealth of Pennsylvania." In this document can be found very pertinent and wise observations concerning the legal situation in those early days. They stated that the charter granted to William Penn provides that "The laws for the regulating and governing of property as well as for the descent and enjoyment of lands as likewise for the enjoyment and succession of goods and chattels and likewise as to felonies within the said province, shall be and continue the same as they shall be for the time being by the general course of law in the kingdom of England, until the said laws shall be altered by the said William Penn, his heirs or assigns and by the freemen of the said province, their delegates or deputies, or the greater part of them."

Speaking of the difficulties that confronted them in their investigation they brought out the interesting fact that there existed no printed reports of judicial decisions of the courts of Pennsylvania prior to the Revoluition and that the only means of knowledge of the same at their command was either tradition or manuscript notes in the possession of the gentlemen of the bar or the judges. A study of their report discloses no reference to any statute bearing upon the remedies of an injured employe, therefore, we know that those actions were based upon the *lex non scripta* or unwritten law of England and tacitly adopted by the colonies. The Common Law is that portion of the law which is "based not upon legislative enactment, but upon immemorial usage and the general consent of the people." So thoroughly had the public accepted the general immunity of the master for injuries to the employe and so completely had the doctrine that the servant must bear his ills been adopted that the Courts of England were not called upon to write this popular interpretation of this relationship into the fabric of jurisprudence until the well-known case of Priestly vs. Fowler, 3 M. & W. 1 decided by Lord Abinger, 1837, who, in his opinion rather voiced great

surprise that an employe should possess that temerity necessary to undertake to enforce an action against his master. "If such a theory should prevail" said the court "then the master for example would be liable to the servant for the negligence of the chambermaid for putting him into a damp bed, for that of the upholsterer for sending in a crazy bedstead whereby he was made to fall down while he slept and injure himself or for the negligence of the cook in not properly cleaning the copper vessels used in the kitchen." Accordingly we find that our American Courts, as soon as the opportunity presented itself, fell in line with Priestly vs. Fowler, for in Farwell v. The Boston & Worcester Railroad Corporation (1842) 4 Metcalf 49, Chief Justice Shaw of Massachusetts approved of Priestly v. Fowler and held the railroad company not liable for an injury to an employe caused by the negligence of a switch tender. Then Ryan v. Cumberland Valley Railroad Company, 23 P. S. 384 wrote the common law doctrine into our Pennsylvania decisions.

The Supreme Court in that case indulged in observations as to conditions as they then existed, which even now are adopted by many present day reactionaries who are opposed to progress and stand aghast at any attempt to establish a more complete social justice.

Mr. Justice Lowry then said, "If we declare that workmen are warranted against such carelessness then the law places all careless men, which means all who are badly educated or badly trained men, and it places those that have even not acquired a reputation for care, under the ban of at least a partial exclusion from all work. And this is the ordinary result of all undue attempts to protect by law one class of citizens against another. It is done at a practical sacrifice of liberty on the part of those intended to be protected, and to the embarrassment of the common business of life by imposing upon the people a rule of a new and unusual character which may require half a century to become fitted like a custom, and adapted to the customs already existing which it does not have the effect of annulling."

From that time our law reports are filled with cases following these precedents. Our judges thoroughly established the defense of contributory negligence, risk of employment and negligence of fellow employes. During all these years there was an inherent police power in our legislatures to alter these doctrines by enactment, nevertheless, it had never been accomplished but during all this time these defenses stood in our courts of justice and had said "Nay" to the crippled, the injured and maimed and denied relief to widows and children in thousands of cases.

The courts were helpless because it was their duty to follow precedent and enforce the law. Many a time has a widow, with her little ones in court, heard the words "non suit" fall from the lips of the

Judge without appreciating their significance, but after she had gone back home, and as time passed on and she realized that the gaunt spectre of hunger and privation was doing picket duty in front of that little home,—then she began to feel that there was something unbalanced in our social justice.

From all parts of Pennsylvania came the demand for legislation that would provide a proper and competent method for helping the wage earner to bear his burden and to take relief to the home, when, accident had overtaken him. It must be borne in mind that it was not the employe alone who sought relief, for the employer was equally interested. There was no hilarity displayed by employers because of the fact that their employes had been injured and the law accorded them no relief, for the thoughtful employer had learned to regard the health, happiness and contentment of his employes as his greatest asset, and, therefore, he was anxious that some scheme be devised that would help these men so that they could be reasonably compensated for injuries to a degree that was not prohibitive of the financial success of his enterprise. The employer stood willing to do his share but he could bear no greater expense than his business would warrant. He had long since adopted the scheme of the insurance companies to guarantee him against the results of lawsuits, but this was an unsatisfactory method to the humane employer, for he could see these great insurance companies paying dividends, employing high salaried officials and spending large sums in the maintenance of old business and in the acquisition of new, all out of his premiums, but he could not trace any considerable portion of his money to the man who was bearing the brunt of misfortune. He further regretted the fact that his employe ever had occasion to disrupt the harmonious spirit of his plant by going into court with his employes as witnesses against him, and also that he, for self-preservation, was compelled to do likewise. Absolute harmony between employe and employer in that mill or factory would never be reestablished. Then the tragedy of the home of uncompensated injured men entered into the consideration of the problem. The taxpayer was interested in that he knew that he was helping to defray the expense of the pauperism incident to uncompensated injured industrial employes. So that the products of industrial accidents were friction and irritation between employer and employe, the wrecked homes of the unrecompensed wage earners whose children were consigned to the treadmill when they ought to have been in school, an unnecessary demand upon the taxpayer to maintain the institutions for the relief of pauperism as the direct result of uncompensated injury, the cost to employers for insurance that really did not insure, and most regrettable of all, the conviction was rapidly

fastening itself upon employes that law was not made for them nor for the enforcement of social justice.

Because of all these conditions it seemed absolutely necessary that a scheme of compensation should be devised whereby the particular industry in which a man had been injured should bear the burden of these injuries in order that it could charge the same to the cost of production and distribute it equally among the consumers of that product: for after all it is the consumer who ought to pay. Then the thought came to the people of Pennsylvania that the solution had been worked out by all Europe and by many states in the Union; for society, imbued with a spirit of humanity, had decreed that production must demand from consumer a twofold dividend, namely, a fair return both to the man who invests his money in the enterprise, as well as to the workman who suffers injury while engaged in the same undertaking.

In other words, the laborer's contribution of an arm to a great enterprise is quite as valuable as the money invested in the same business by the master, and for both of these contributions the user of the product should pay a fair return. The Pennsylvania legislature then adopted a scheme of legislation which undertook to solve these questions by translating the verdict of society into this great humanitarian statute. What has been the result? On October 12th last I received a letter from one of the great railroads of Pennsylvania in which the General Claim Agent, says, "We have been more than fortunate in the operation of this law and we find that it is much cheaper and more economical than our claims were under the common law liability which existed previous to the enactment of this law. From the calculations we have already made for the first eight months of this year, we have developed the fact that the Compensation Act provides a much cheaper basis for the adjustment of claims to the employer and more liberal and certain means of compensating the employe, than the common law liability"

These are golden words from the same kind of employer that under the old system invoked in its behalf every technical defense in order to keep a few dollars away from the boy of my text.

Had that boy been injured since the first of January of this year, instead of employing an attorney and fighting his case in the courts for four years, only to be finally denied a verdict, he would have had mercy dealt to him at the time when he was suffering in the hospital. His employer would have furnished him with the very best medical attention and for loss of that leg he would have received half of his wages for 215 weeks. What then is the Pennsylvania Act that has provided comfort and substantial but modest relief at a time when

most needed? Our law was made elective so that both the employer and employe if they see fit can reject it, but if the employer so elects he will be thrown for his defense upon Article 2 of the Act which provides, that where an employe brings suit against his employer it shal not be a defense, "(a) That the injury was caused in whole or in part by the negligence of a fellow employe; or (b) that the employe had assumed the risk of the injury; or (c) that the injury was caused in any degree by the negligence of such employe, unless it be established that the injury was caused by such employe's intoxication or by his reckless indifference to danger. The burden of proving such intoxication or reckless indifference to danger, shall be upon the defendant, and the question shall be one of fact to be determined by the jury."

The employers of Pennsylvania have accepted the Act by quietly coming under its terms, for the Act provides that the employer in failing to give his employes notice of his rejection of the Act shall be construed to have accepted the same.

The Supreme Court of Pennsylvania has sustained the constitutionality of this Act on the basis of this implied agreement. The employer cannot say that he has been deprived of the right of a jury trial or that the Act is unconstitutional in limiting the amount of damages or that it is taking his property without due process of law, for Chief Justice Brown has held that the employer has accepted these conditions by his own agreement. If on the other hand, he sees fit to reject the Act and have his cases tried under Article 2, he cannot complain that the defenses of contributory negligence and negligence of a fellow employe and risk of employment have been taken from him, inasmuch as these defenses were common law institutions and can be modified or taken away at any time by virtue of the police power in the legislature.

What are the provisions of this Act that has resulted in its unanimous approval from one end of this great State to another? We have a referee system, which means that if an injured employe can not agree under the terms of this Act as to his compensation with his employer then, without lawyer, without money and with no other expenses he can go to one of the ten compensation referees in the State who will prepare for him his claim petition, a copy of the same will be served upon the employer and in a few days a hearing will take place before such referee. He further has the right of filing a certified copy of his petition in the prothonotary's office of his county thus making his claim a tentative lien against his employer until its determination when the final figures can be written into the tentative lien and it then becomes a permanent encumbrance against the employer's property and can only be removed by payment or by

deposit of that amount of money in an approved institution. When this injured man comes to present his claim before the referee he is not met by hindrance nor vexatious examiners, as the Act provides that neither the referee nor our Board shall be hampered by technical rules of evidence. Every inquiry is directed toward the determination of the truth unembarrassed by the skill of the trial lawyer, accustomed to bewilder a credulous jury. The referee fixes a day for a hearing and their courts are held in localities most convenient to those interested in that particular case. The Act provides that the Board, composed of three members, shall be the court of review as to the decisions of these referees. We sit as frequently as is necessary. We go to Pittsburgh, Harrisburg, Scranton and Philadelphia or any other part of the State that best serves the convenience of the interested parties, We are endeavoring to hold the scales of justice evenly. Workmen's Compensation does not mean an insurance scheme whereby every injured employe must receive a payment of money, but as we held in Swanson v. Sharkey "Neither sentimentality nor sympathy can find a lodging place in our decisions. We must determine the issues involved in the case by the record that comes before us.' In Dodson vs. Haller we said "The administration of compensation laws must be marked by even-handed justice. The same rules of evidence and principles of law apply equally to the injured, to the dependent and to the employer. The moment we depart from this thought, compensation law ceases to be a great humanitarian measure of untold value to the employe and of great economic advantage to the employer, but becomes an unthinkable propaganda that can not survive in an enlightened community."

Our Workmen's Copensation law was written in accordance with the most modern thought upon this subject, in plain and unmistakable language and makes provision for fatal as well as non-fatal injuries, dividing the nonfatal injuries into three classes: A—Total Disability; B—Partial Disability; C—Permanent Injuries. The total tremendous expenditure of human energy involved in a Pennsylvania workday carries an average toll of a thousand injuries.

From January 1st last till the first of October, 180,000 of these industrial units called "Pennsylvania workmen" suffered some injury. All of these men were entitled to medical tratment at the expense of the employer.

This administration of mercy and this means toward the conservation of human energy is the greatest achievement of our legislature. More improtant is this medical treatment to our working forces than the dollars and cents that come in the form of compensation. When a workman is injured he receives fourteeen days of medical attention before his case is compensable. Our Act is written so plainly

that already over 40,000 compensation agreements have been voluntarily entered into by employer and employe. These agreements are filed with our Bureau in Harrisburg, approved by us and become an unliquidated obligation against the employer during the term of such contracts. The Act provides for the payment of a percentage of the wages beginning on the fifteenth day after the accident extending over a period of time according to the extent of the injury.

In fatal cases the period of payment is 300 weeks to the widow and to continue thereafter to each child at a lowered rate until each one becomes sixteen years of age. In the case there is no widow nor dependent children then there is an allowance to parents, if actually dependent upon the deceased, and this dependency is a question of fact to be proved; and if no parents, then to brothers and sisters if under the age of sixteen, and actually dependent.

If the injured workman can effect no agreement with his employer then as I have outlined, he brings his case before a referee. An appeal can be taken from such referee to our Board and from our Board to the Common Pleas Courts. In the adjustment of over 50,000 of such cases it is very gratifying to us that there have been but eleven cases appealed to the Common Pleas Courts of the various counties throughout the State and this result represents fixed incomes secured by the very best policies of insurance to the widows and children of those who have been killed during the last eight months to the extent of over $2,000,000. Upwards of a million dollars have been set aside for nonfatal injuries during the same time. The payments will be so modest and will extend over such a period of time that the stress of these obligations will not embarrass the employer. Many of these unfortunate women and children have appeared before our Board seeking at our hands a reduction of these continuing payments to present values and praying that we order the money paid to them in a lump sum. As to these cases our policy can perhaps be no better defined than to quote from Stifura v. Pressed Steel Car Company where the sentiment of the Board, is written as follows:—"It will only be in rare cases that we can wisely exercise this discretion by granting such petitions. It is a great temptation to a widow or any beneficiary under this Law to ask that the compensation payments be commuted to present value and paid in a lump sum. We think however, in a great majority of these cases, these petitions are ill-advised and a real wrong would be done to the petitioners if we granted their prayers. The Act has wisely provided for the payments of compensation to be made at such times as the injured or the deceased would have received his pay; thereby providing a certain, modest, but sufficient sum at stated intervals so as to relieve the dependent of real want.

"In the majority of these cases the dependents have been unaccustomed to the use of money in bulk and the sudden acquisition of a considerable sum might readily lead to its unwise expenditure or to its unfortunate investment. The widow might terminate her dependency by remarrying and then the money would probably be spent without regard to the rights or best interests of the children."

When we look back over the past ten months and realize what has been accomplished in thoroughly establishing the principle of compensation in the minds of the 8,000,000 people of Pennsylvania and in the creation of all the departments of our Bureau so that its machinery works as smoothly as though it had been in operation for many years, and witness the great good that the administration of this law is doing, we are really bewildered at the results. They have been made possible by thorough co-operation.

Every man who has been called upon to perform any duty, large or small, in the administration of this scheme of compensation has entirely minimized self and has generously contributed his best efforts toward the desired result. The genius of public service demands the elimination of the individual and exacts absolute co-operation and harmony. Whenever any man in public life uses the opportunities incident thereto for personal exploitation his usefulness ceases and his withdrawal is a public necessity.

Each member of the Board at the beginning of his service in connection with this subject felt that he had been called upon to perform a most important duty and went about his work with a full sense of this responsibility, for we knew that we were undertaking a new method of administration and thus plowing new ground under an untried system. We realized that many friends of compensation law believed that the Referee System of Pennsylvania with a Board as a court of review was a mistaken scheme and that the courts ought to be called upon to enforce the provisions of the new lay. Therefore the Board was early put upon its mettle.

We realized that the Pennsylvania Legislature had addressed itself to the most difficult problem that any lawmaking body had ever undertaken, because our State presented problems more difficult and complex than had any state in the Union. The Board undertook this work bringing nothing to the administration of this law save absolute loyalty to the Governor of this State whose interest in the success of this legislation was most intense. The Board partaking of his enthusiasm and inspired by his refreshing zeal has labored to make the Workmen's Compensation Law of 1915 the crowning glory of his administration. Besides this loyalty the Board can lay claim to a lawyer's fidelity to the science of the law, and, therefore it brought to the aid of this legislation the traditions of the

legal profession and a thorough conviction that al law must be administered, not for class nor for any particular branch of society, but for every element in our body politic with even-handed justice to all.

The Board's first duty was to divide the State into eight compensation districts equalizing, as far as possible, population and hazardous employment. The next duty was to assign to these districts the referees who had been named by the Commissioner of Labor with the approval of the Governor. A review of the work of the Compensation Bureau would not be complete without paying a proper tribute to the spirit and intelligence displayed by these ten gentlemen thus appointed and assigned to their respective districts: W. B. Scott and George C. Klauder, of District No. 1, located in Philadelphia; Paul W. Houck, District No. 2 located in Pottsville; George W. Beemer, District No. 3, located in Scranton; *E. K. Saylor, District No. 4, located in Lancaster; W. W. Champion, District No. 5, located in Williamsport; Jacob Snyder, District No. 6, located in Altoona; G. Scott Smith, District No. 7, located in Warren; Thomas J. Dunn and L. E. Christley, District No. 8, located in Pittsburgh, Penna.

It was our duty and privilege early last December to say to the referees: "You have been called from various parts of this great State; your experiences in life have been different; the paths you have traveled have been widely divergent and therefor we must expect that you look at subjects from different viewpoints.

"This is rightly so, for, in thus calling you to the performance of this duty we bring to the aid of this legislation the common experience and the common knowledge of this Commonwealth. This Board, however, is extremely anxious, and in this we voice the earnest desire of His Excellency the Governor, that you remember that this law is a law of every man, woman and child in the State of Pennsylvania; that it is to do justice to all and if in its administration it does not prove of most incalculable advantage to the man who toils and if it is not of great economic advantage to capital, then either the law is a mistake or we shall have failed to have properly administered it.

"You must see that the rights of all men are preserved. You must know no distinction between the employer and employe; there must be no arraignment of class against class nor of one element of our citizenship against another. It is our desire that you administer this law with the least inconvenience as possible to employer and employe. It is your duty to go to them rather than to summon them to you. In the case of an accident your place for hearing is in close proximity to the scene of investigation. Technicalities will have no place in

*Deceased.

your rules of procedure. A determination of the truth must always be your watchword and to arrive at this desired result technical objections must not blind your vision nor blunt the keenness of your perception.

"Yours, therefore, is a mighty responsibility and the exercise of a wise discretion upon your part will at once demonstrate the wisdom and economic value of this great legislation."

It then became necessary for us to enter upon a campaign of educating the public up to the standard of our Law and to instill in the minds of our people the spirit of compensation law. Meetings were held in every part of the State. In line with this thought the Board deemed it advisable to promulgate advance rulings upon difficult sections of the Act in order that as much light as possible could be thrown upon this legislation before it actually went into effect. These rulings can be found on Pages 21 and 22 of Bulletin No. 3, issued by the Workmen's Compensation Bureau. One of the best of these suggestions in advance of the actual operation of the law is Ruling No. 4, where the Board ruled, "In all cases in which applications for exemptions from carrying insurance are made, the applicants must answer the following question: State whether or not it will be your policy to discriminate against any class of employes for the purpose of reducing your liability under the Workmen's Compensation Act of 1915."

We early forsaw that the only class of employers who might find it to their interest to discriminate against the old, the crippled and infirm or to draw a distinction between single and married employes or between those whose dependents are within our jurisdiction or who remain in foreign countries, were the self-insurers; for our Law provides that the Board is empowered to grant exemptions from the necessity of taking out insurance to those who present their financial statement to us and who conclusively show that they are financially able to carry their own insurance and meet the obligation of any possible losses that might incur during the current year of the application. We therefore earnestly addressed ourselves to the thorough protection of those who might be thus discriminated against. This matter has been followed up with great care and every complaint has been investigated, every unfortunate relationship in this respect has been satisfactorily adjusted and our new application forms for self-insurance have enlarged this to the complete protection of the wage earner.

One of the most onerous tasks to which the Board addressed itself was the preparation and publication of all the various forms that might be necessary to meet all the details of administration. A glance at the new Bulletin No. 3 will disclose how completely every possible contingency that may arise under the Act has been an-

ticipated. In order that our practice shall be absolutely uniform, all agreements, claims and other petitions and answers must be substantially in accordance with the forms which we have provided.

For the convenience of all parties interested in the work of compensation, the decisions of the referees and opinions of the Board have been printed in the Department Reports and further for the use of the same parties and to excite a widespread interest in orderly procedure, we are about to publish a digest of our decisions and opinions. This, as the case with all our literature, will be gratuitously distributed which thoroughly eliminates from our work any commercial suggestions that sometimes follow the publication of such digests in other states where they are offered for sale.

The Common Pleas Courts of our State have thoroughly supplemented our efforts toward uniformity of practice by adopting rules, which we drafted, governing the appeals from the decisions of the Board to the Common Pleas Courts.

It is with some degree of satisfaction, therefore, that we are able to report to the friends of compensation that in less than a year this new thought has been projected across our State, that its spirit and theory have been cheerfully adopted by employers and employes and that a scheme of administration has been thoroughly established, including the division of the State into districts, the appointment of referees, the establishment of their courts, the adoption of rules governing their hearings, the formation and publication of the rules of procedure before the Board, the creation of the calender of business to be followed by the Board at its weekly meetings, and the method of appeal from the Board to the Courts.

Any report of the year's work would be incomplete without noting the attitude of the Board toward the question of insurance. It has found itself in rather a delicate relationship because of the rivalry existing between stock and mutual companies and the State Fund. A short time ago we believed that it was time to put ourselves upon record. We then issued the following:

"In order to correct a rumor, that if not contradicted might bring about a great misunderstanding, we desire to say that the Workmen's Compensation Board as far as the question of insurance is concerned is entirely neutral and officially has no preference nor have we a right to make any favorable suggestions in favor of one company or system of insurance over another.

"All that our Board is interested in is that the insurance companies doing business in Pennsylvania shall be perfectly solvent, so that a policy holder may have the security for which he pays. The only matter of vital interest to us is that the insurance carrier be financially strong and that the Rating Board fix the rates so that these

carriers can prosper, for we cannot expect an insurance company to carry hazardous risks without a fair profit.

"Many of our employers naturally are looking for a cheap rate, but the thing to do is to inquire whether the rate is an adequate one, because if it is not, no insurance carrier can survive. There ought to be plenty of competition. This law has created probably $30,000,000 worth of new insurance business in our State. No one should desire that the State Fund monopolize this business any more than any other company. There should be a fair field with no favors. All the various schemes of insurance that have been doing business in Pennsylvania, having been approved by the State Department at Harrisburg, have their own particular advantage.

"Therefore any statement that our Board is using its official influence to favor the State Fund as against the old line stock companies or that we are addressing ourselves to the question of insurance at all, is entirely erroneous, as a matter of fact we are opposed to creating a state monopoly. We are very carefully watching how each company meets its obligations and the promptness with which our awards are paid and the spirit displayed by the various carriers toward the employes. We are interested in security and prompt payment only. As a Board, we do not care what carriers come up to these conditions and all will receive our support and will be treated exactly the same in the determination of their cases."

In the beginning the greatest misunderstanding prevailed as to the terms of this legislation among the gentlemen of the medical profession. The Board has taken advantage of every opportunity to appear before medical societies and to publish explanations for individual members of this profession throughout the State elucidating the terms of this Act and showing that there has been no real discrimination against their great profession.

A summary of this situation perhaps can be found in a pamphlet entitled "Pennsylvania's Compensation Law and the Doctor" as read before the Philadelphia County Medical Society by the Chairman of the Board with the full approval of his colleagues as to the statements therein contained, as follows: "Physicians, individually and medical societies have exercised the greatest degree of moderation in considering this subject. I believe that when we shall have enjoyed a full year's operation of this Law and are ready to appear before the next Legislature to recommend any amendments, which our experience shall then have justified, that we will not have as many suggestions from the medical profession as it first seemed that we would. I believe that physicians will realize the multiplied opportunities this Law presents for their activites and appreciate the fact that it does not fix their fees, nor trespass upon the ethics of their

great profession. It will be, however, after the mature deliberation of societies such as this that the final judgment of the profession shall have been voiced.

"Our Board will then feel especially commissioned to place before the next Legislature your recommendations which we know will represent the patriotic judgment of members of a great humanitarian profession imbued with the highest sense of civic and professional obligations."

The Board pointed out, in an order under date of August 18th last, when we placed upon a postponed calendar, 26 cases involving the question of interstate commerce, that a confusion as to jurisdiction had arisen, because Congress by the Act of 1908 had legislated as to the method of litigation where both the employer and the injured employe were engaged in interstate commerce at the time of the injury. That legislation was prior to the enactment of any state compensation law. Since that time thirty-one legislatures have provided a method of compensating injured workmen. We are now awaiting a decision of the Supreme Court of the United States. This will govern us in the consideration of cases involving this conflict. In the meantime it is only proper that we should repeat in this paper what was said in that opinion as to the Pennsylvania Railroad which settles all of its cases of injured employes within the terms of our law. We then said—"Thus a great corporation engaged in interstate commerce has recognized the utility of our compensation scheme, and in a spirit of modern humanity has declined to enter technical defenses but has adopted a broad-gauged plan of applying our Law and at the same time protecting itself against another doubtful, uncertain and unsatisfactory liability created by Congress."

In this opinion we referred to the difference in the feeling of contentment that now prevails throughout our great army of wage earners under the protection of this Act and the uncertainty due to the conflict of jurisdiction leaving the status of the railroad employe in doubt; we said—"The Pennsylvania industrial worker thoroughly appreciates the Pennsylvania Workmen's Compensation Law of 1915. A feeling of contentment and certainty has taken possession of the man who toils, for he knows that no matter what misfortune may overtake him in his daily labor the Legislature of his State has made provision for his dependents that will secure them against real want and will care for and nourish them during a period when relief is most needed.

"On the other hand the citizen who is engaged in railroading goes to his hazardous employment each day knowing that if he should

be killed in his occupation, that he has left to his wife and dependent children an inheritance of litigation. They must meet the railroad company in court and establish its negligence before a jury can consider the question of damages. All the disadvantages are upon those least able to meet this burden of proof. They will also be subjected to all the delays, uncertainty and expense which a compensation law avoids."

In conclusion, what have been the practical results of the administration of this legislation with all this effort in taking its mercies to the wage earner and in carrying its economic advantages to the employer?

The number of compensation cases from January 1, 1916, until November 1, 1916, ...	65,820
Of this number 2,113 are fatal cases. 41,000 of the above number of compensation agreements have been approved.	
Information pertaining to the month of October:—	
Fatality compensation due according to agreements approved, ...	$618,872.50
Fatal compensation paid during the month of October,.	25,671.52
Disability compensation paid during the month of October, ...	176,357.11
Of the 2,113 fatal compensation cases, 892 compensation agreements have been approved by the Board.	
The amount required to pay the dependents of the 896 men is	$2,263,003.24
Total amount of fatal compensation paid to date is	95,133.88
Disability compensation paid to date, ...	896,569.99

There have been 1,388 claim petitions filed to date. Of this number in about one-fourth, compensation agreements have been entered into prior to the hearings before the referees.

We find in the bituminous coal region, which includes Washington, Allegheny, Fayette and Greene Counties, there were 4,429 compensation cases. Of this number 139 were fatal cases.

In the anthracite coal region we find there were 6,958 compensation cases. Of this number 333 were fatal cases.

We also find that the majority of men killed are Americans, and that it requires between $2,500 and $2,600 to pay the dependents in the fatal cases.

We can with some assurance then claim that ten months' experience under this Law has thoroughly justified its existence. We maintain that its accomplishments have spelled success for the scheme of compensation. We confidently assert that the whole propaganda of humanitarian legislation has been mightily advanced because of the fact that Pennsylvania's brain and conscience have been added to the forces behind this great movement.

CHAIRMAN JACKSON: We will now hear The Viewpoint of the Manufacturer upon this subject from a man who for a long period of time in this State, has been well known for his humane ideals, the practicing of such humane ideals, and also as a man of successful business, a man whom I think we all love and revere because of his keen insight not only into business but also for his humane dealings from the more kindly standpoint.

I take great pleasure in introducing to you Mr. A. B. Farquhar, President of the A. B. Farquhar Company, York, Pa.

THE VIEWPOINT OF THE MANUFACTURER.

By A. B. FARQUHAR, President, A. B. Farquhar Co., York, Pa.

MR. FARQUHAR: Mr. Chairman, ladies and gentlemen, I have been so busy since returning from France, which I visited with the Industrial Commission, and occupied so much with various undertakings, that I have not been able to write or prepare any paper on this matter of Workmen's Compensation and kindred subjects; but Mr. Jackson was good enough to say that I might bring in matters which I saw in Europe and elsewhere and which have been of intense interest to me.

I would say, in brief, that just in proportion as we follow the Golden Rule will we do right by labor and in every other respect. It is a rule that has no exception whatever; none can be made. This Workmen's Compensation Law of Pennsylvania is a long step towards establishing that rule in the matter of accidents to our employes. It has been tried but a few months, some ten months; it has been productive of a vast deal of good, as has been eloquently stated by the gentleman who just preceded me; it has improved the feeling between the working classes and the manufacturers; and raised the respect for law, which is essential to civilization, letting those who have not the advantage of wealth feel that they are being treated with the same fairness that those with money receive.

Well, the "Viewpoint of the Manufacturer,"—at least my viewpoint, is that the law is good; that it is a long step in the right direction; that it should have a full and fair trial before any change or any amendment is made to it. It was very carefully conceived and carefully worked out. It certainly would need at least two years' trial before it would be wise to suggest changes. A number of changes have been suggested to me by brother manufacturers, but I think that on the whole the law is good. Give it a fair trial

before any change is made at all. The important matter is to remove all class feeling among the people.

You will pardon me for referring a little to my own experiences on the point bearing upon obligations between manufacturers and workingmen. I learned the trade over sixty years ago; became acquainted with the workingmen with whom I worked; became attached to them, and that feeling of attachment has never changed. I am fond of my workmen. A large number of the employes of our factory are just as high grade in every respect as I am myself; are entitled to as much respect; try just as hard in their spheres to do their duty, and do it with the same care and consideration. In the sixty years I have been in business I have many times been called upon to aid those in distress, those that got into difficulties, or were back with their rent, or through sickness in their family or other reasons could not pay their debts. Of the entire amount that I had cause to loan to these workingmen—always loaned without interest—but one single one failed to pay back the amount they had agreed upon; except in case of death and then, of course, they could not do it. I wish as much honesty were displayed by all I deal with.

I look upon the working class as entirely disposed to be loyal, among the most loyal and honest of all people, and entitled to every possible personal consideration and treatment. My plan, or our plan in our factory, which was for a long time conducted by me alone, was simply to treat the workingmen as I would like to be treated under the same circumstances: If hurt, to take care of them, pay the doctor's bill, look after the families, and as soon as they were able, have them come back to the factory at least at the same wages. No reduction was made no matter whether they lost a limb or what happened. I might mention an instance: A carpenter who was with me for some time, a very good man, a good workman, had one of his hands almost cut off. My attention was called to it, of course, knowing I felt an interest in him. I went to see him and I found him deeply distressed and he said, "I have nothing in the world to look forward to; I will not be of any use; I haven't the education to fit me for any other occupation; I am down and out." I replied, "No, friend, as soon as you are able to leave the hospital, and the doctor says you can go out, you come and see me in my office; I will talk it over with you; I think you are mistaken." He was there the next day, came with his arm in a sling; and he said, "I could not wait; I could not sleep last night for thinking about it." I told him, "You are well qualified to do

a great deal of work; your head is just as clear as it ever was; a place can be fixed for you where you can earn at least the same wages you got before, whenever you are competent and well enough; do not worry about it." He came back at the end of the week. His wages, of course, continued. He started in and at the end of a month got higher wages than before, because he earned them as an under foreman, even though his hand was mutilated. I think that is the best plan, to help them to help themselves. In order to maintain them, keep them at work, no matter what happens. A man who loses his arm and returns to work again and receives the same wages as before, is happier and more independent than when receiving a compensation that he feels he is not earning. There are manufacturers who may not feel that way, and the Compensation Law is, of course, necessary for the protection of the workman. I think the Pennsylvania Law is well devised and well directed and I would not suggest that any change be made in it for at least two years. I find the law is quite similar to that of France, Germany and England. I have examined them all; personally in France in the last few weeks. Our law is a little more drastic by the fact that the man must show that he has been hurt at his occupation. In that, I think our law is an improvement upon the French law.

It might be interesting to you to hear of conditions in France, as Commissioner Jackson suggested I might mention them. There the whole labor system is changed by every able-bodied man having been carried into the army. Every able-bodied man between eighteen and forty-five, though it is really more nearly between sixteen and sixty, is in the army; no exception; no one can get a substitute because the substitute would already be in the army. Our American Industrial Commission was invited by the French government to come over to exchange ideas with the view of rebuilding their factories at the close of the War in the best possible style, taking advantage of American methods and, of course, incidentally with the idea of increasing our trade and improving the mutual understanding between the two countries. France, as you know, was in at the birth of our Country and assisted us very much during the Revolution and we have always felt close to her on that account. We visited the birthplace of Lafayette and saw the room in which he was born.

The French are very polite hosts. They took very good care of us. The Chambers of Commerce throughout France are part of the French government. We were welcome guests. We were provided with automobiles and free transportation on the trains. In the

war zone there were two soldiers on every automobile. I asked why there were two and was told it was because there is a great deal of risk and if one is shot you have the other to take care of you. One day passing by a beautiful house there was a waving of flags. The ladies seemed to be in a high state of excitement and I asked the French Deputy in the automobile, "Why don't you respond?" He said, "That is not for me; it is for the chauffeur." I replied, "Do they think so much of the chauffeur that they salute him thus?" The Deputy said, "He owns that house and the ladies you see are his wife and sisters." "How does he come to be the chauffeur?" I asked, and was told that every able-bodied man was in the army and that the wealthy classes had no advantage over the poorer classes except they may have automobiles or aeroplanes and may operate them. There have been no bombs dropped in Paris for over four months. The aeroplanes are the police who guard the city. You see them flying over the town. You hear these guarding angels flying all around, so near you can hear the flutter of their wings and it makes you feel safe and comfortable at night. It is beautiful to see them. They have one hundred and twenty-five aeroplanes to guard Paris. We visited the aviation field to see them and they sent up a member for us. They got out of sight in a few minutes. One went to the front and came back in an hour. They are provided with machine guns, enabling them to act as guards or police. The sergeant was exceedingly good to us. He gave me the privilege of going up in one of the planes, which I wanted to do, but the leader of our commission insisted that if anything happened it would interfere with our plans and I did not do it on that account. It was the only thing I wished to do in France that I was not allowed to do. The sergeant in charge of aeroplanes was so very good to us that I suggested that we ought to give him a substantial fee because he had spent so much time on us in showing what could be accomplished with the machines. To my surprise I was told that he owned the largest department store in Paris and was one of the wealthiest men in that city but was in the army, of course, like everybody else and was familiar with aeroplanes and happy that he had that place instead of fighting in the trenches.

In traveling through the war zone it is interesting to learn how they are situated. Going into the trenches, which we did, I talked with officers and you learn many things on the ground that you never hear anywhere else. One officer I spoke to said six months after the war commenced he was sent to the front. He said he thought the voice of the corporal sounded familiar and he soon found that he had been a servant in his own home and had blacked

his boots. He was a wealthy man and he asked whether he was now expected to do servant's duty for the officers and black their boots, and was told by his former servant that he would be treated very kindly by every one; and he soon rose by valor to a superior position. The class feeling seems to have been broken down altogether. In fact there are women who hold the highest social position in France, and in England members of the nobility are working in the ammunition factories. You see thousands of women doing all kinds of work, and doing it just as well as the men. I asked "When the War is over what will the men do?" I was told that a great many, of course, would be killed and wounded and many of these women would feel like continuing because they are getting more wages than before. The wealthy class, who never did anything at all, find it interesting to have an occupation.

Every man, woman and child in France seems to have made up their minds that the country must be rid of the invaders. It will be a long and desperate task.

I want to tell you about some other things. The trench life is horrible. The soldiers are in water sometimes half way up to their knees, in cold and in darkness. There are no tents at all because they would soon be marked by the aeroplanes and destroyed by shrapnel. It seems like butchery. Between two of the trenches they had been fighting for some three or four days and there were a large number of men lying there, some killed, some wounded. A truce was called to bury the dead and some wounded men were found who had been lying there all the time with a leg or an arm shot off or otherwise wounded, then occasionally a shell would drop down among them and scatter them in fragments. The thing is horrible beyond description. I think we can be very thankful that our country kept out of the War.

Coming back to the question of capital and labor you all know that one must have the other; one is useless without the other; capital is utterly idle and can accomplish nothing without labor. The laborer can do nothing without capital. Even if a man has a farm and attempts to raise his own products, unless he can get capital to buy the seeds and maintain him until his crops grow, he will starve to death. Therefore, there should be no antagonism between them. Their interests are mutual; capital is the head, labor the hands; useless one without the other. Years ago the railroads thought they were more or less independent. It was said a great railroad president made the remark, "The public be damned." When his attention was called to the fact that that was not treating the public fairly he denied having said it. The people believed he

thought it at any rate and so they ascribed the words to him, as frequently happens in such cases. Now some of the labor leaders take the same view, which is a mistake. One of them speaking in Washington recently said, "The public, oh yes, the public are the carcass and we are the vultures, and we propose to prey upon them;" but in the true interests of labor that attitude should not exist.

Referring to the question of railroads, I was talking to Adamson, the father of the Adamson Bill in Washington, among others, and he agrees that the Government has the right to see these transportation systems run; that they must run or the babies will starve to death for milk and be as bad off as the babies are in Belgium; and, as the Government has the right to make the railroads run, regardless of the conditions, that they have the perfect right to make a law by which the working class shall not conspire to strike without first submitting the matter to arbitration. I think that is reasonable. A strike is war. I do not believe in war. It never settles anything. When the parties are all exhausted, those that started it get together and form an arbitration committee to settle the dispute. It is settled by arbitration at the close of the war, never in process of war; therefore, as Franklin said, "There is no such thing as a good war or bad peace." Washington, Sherman and Grant took practically the same grounds. I don't believe there is any excuse for war. I think all matters should be settled by arbitration. In a sense, labor disputes are war. There is no excuse for them, except that the capitalist has not always been fair and the workingman does not have faith in what he may propose for him. For instance, that is the trouble with Mexico. I know Mexico well, have been there. The Mexicans don't believe in the honesty of our intentions, or that we want to do the best for them. The fourteen million of people of Mexico never had any chance for improving their condition. They have merely been under the old feudal system. We want them to have a chance. They don't believe it. They think we are after the territory and are suspicious, and they may have reasons. We have not done our duty always to Mexico, and the Latin races have some reasons to be suspicious.

I believe the manufacturers as a class are now disposed to be fair and I think the workingmen can meet them without any fear of not receiving justice; but at any rate an Arbitration Commission should be created by Congress in the interests of the whole people with power to settle difficulties with perfect justice to all sides; and this Workmen's Compensation Law is a great step in the right direction in our State. There may be some improvements made but, as I have stated before, I think it should have a fair trial.

I trust you will excuse these desultory remarks because I have been too busy to prepare any address. Thank you.

CHAIRMAN JACKSON: I should have stated that Mr. Farquhar was a member of the Commission of the National Chamber of Commerce, which has just returned from Europe, where he was on official business, and I think we are to be congratulated on having heard something of his experience.

During the three years that I have been Commissioner of the Department of Labor and Industry I have had to come in contact officially with the leaders of both labor and capital. Naturally I have had many official dealings with Mr. James H. Maurer by reason of his position as President of the Pennsylvania Federation of Labor. During this time Mr. Maurer has been of great service to us in aiding in the great work of reducing accidents, and both by the elimination of dangerous places and the instituting of safety educational measures among the members of the organizations represented in the Federation over which he presides. Mr. Maurer has also given us wise advice and helped in developing our Employment Bureau, and in many other ways. He has shown an attitude of fair-mindedness and a desire to see equal handed justice done, which not only is a credit to him but has already been of material service to the industries of our Commonwealth and, I believe, bodes well for the future.

I, therefore take great pleasure in introducing Mr. Maurer to you, who will speak on the viewpoint of the employe.

THE VIEWPOINT OF THE EMPLOYE.

By JAMES H. MAURER, President, Pennsylvania Federation of Labor, Harrisburg, Pa.

MR. MAURER: Mr. Chairman, ladies and gentlemen, like our friend from York, I have been very busy lately and did not have time to prepare anything on the subject. While I have not been to Europe, I have a friend and neighbor who just returned a few days ago from Germany. He was at my house last evening and we had a long talk about conditions in Germany. He told me of the difficulties in getting there and of the difficulties in returning. I asked him whether there were many cripples in Germany at the present time, especially in Berlin. He said, "No." I said, "There must be, because of the millions that have been maimed during the present war in Europe, there surely must be plenty of cripples." "Well," said he, "I saw some, yes, but not any more than I see around here. You see Germany had its 'Safety First' idea, in working order thirty years ago. They learned how not to cripple people in industry and now, since they are crippling them in war, they

are just about, I think, holding their own with us in industry." We live in an industrial centre where there are many railway employes and we have many one-legged and one-armed men and cripples of different kinds. I mention this, gentlemen, to justify, if such thing is necessary, the existence of a Workmen's Compensation Law and the gathering of these delegates here to-day, the purpose being, as I understand it, to try to help eliminate, as far as possible, accidents and misfortunes attributable to industry.

My experience, as a worker, since the operation of this Act, has been, indeed, interesting. I happen to hold a position where I get in close touch and in constant communication with all parts of our State and I, therefore, can speak, I think, knowingly on this subject. Six years ago, when I came to this building as a member of the Assembly, I was very much concerned about workmen's compensation and I think it was myself who introduced the first bill for workmen's compensation ever presented in a Pennsylvania Legislature. I will admit that, if that bill had become a law, I should have to do a great deal of criticizing of it now, but it was the best I knew at that time. A second bill was introduced at the same session. We succeeded in getting the second bill reported out of the committee, only to have it defeated in the Senate. Few of us expected, at that time, to have such an advanced law enacted. We realized that the best we could hope for was to advance the idea and use our bills as a means of propaganda. At that same session, however, a resolution was passed, authorizing the Governor to appoint a commission to investigate the subject of Workmen's Compensation and prepare a bill to be ready for the session of 1913. This commission was appointed by Governor Tener and I always thought it was a very efficient one. I met with them at most of their public meetings and sat by and took part in their deliberations and saw this present law grow, from practically nothing to what you have to-day. The bill, as you remember, was not favorably looked upon by the majority of Senators in 1913; and the same bill was again redrafted before the 1915 session and then enacted and that is the law we have now.

As to its operation, were I ever so anxious to criticize those in whose hands the Act has been placed, I would have some difficulty in doing so. I have been in pretty close touch with many of our State officials and I will admit that some things happened that were not in accordance with my ideas and that if I had had my way about it, they might have been done differently and perhaps not done so well, at that. While I do some things right, there are some things that I don't do right and I am willing to grant that some other people

do things, sometimes, better than I do, but I have not a single serious criticism now to offer against the officials of our State who have been in charge of carrying out this Law. On the other hand, I wish to take advantage of this opportunity for extending my hearty congratulations to them all for the efficient manner in which they have handled this particular work.

A year ago, I predicted to certain officials who are present here now that a year, at least, would pass before they would have the machinery necessary to conduct this work, in proper working condition. I was mistaken in my prediction and agreeably so, because the machinery was put in good working order in a remarkably short time. It is wonderful the work that these men did without making serious blunders.

As to the effect that this law has on the people, I fear I should not start to discuss this phase of the subject and yet, I should like just to refer to it briefly, if you will permit. I think that I have witnessed more suffering among the workers than, perhaps, any other man of my age in the State. I have seen many families impoverished through accidents. I happened to be a member of a family that knows what it means when the breadwinner is gone and the widow is left with a large family of little ones to care for. I know of her struggles to keep them together, and then to see these little ones sometimes separated, some even becoming charges of our State. The old order was not only inhuman, but wrong even as a cold-blooded business proposition. Our penal and charitable institutions of all kinds are overcrowded, due, mainly, to unfavorable environment, the environment created by poverty. I am willing to take my chances on the child being raised properly under the gentle care of its mother in preference to having it raised by charitable or penal institutions. I have seen children, and I have been one of them—boys eight to ten and as young as six, whose mothers were working in factories and the children were left to roam at large during the day without any hand to restrain or guide them. Our companions, in those days, were of course, illegal car riders, tramps along the cinder banks and such characters as you might find around certain stables where we were allowed to loiter. We lived in those days without any compulsory education laws. Some of those boys grew up to be splendid men, while others, unfortunately, did not. As boys, they were all good, not a bad one among them; in fact, boys are never bad, they may be mischievous, but not bad. Therefore, if these mothers had had some means of supporting these children, without themselves becoming the breadwinners, they might have stayed at home and taken care of them. That is why I am a champion of mothers' pensions and workmen's compensation.

The other day I attended a meeting of the Compensation Board in Philadelphia. A woman who spoke some foreign language—some priest was her interpreter—told the story that she was a widow, her husband had been killed in industry, and she had three or four children who were dependent; that a year or so before her husband had been killed they bought a home for eighteen hundred dollars and, at his death, they still had a mortgage of twelve hundred dollars against the home. Now, the question she asked was, "Would the Board allow her to draw twelve hundred dollars at one time and thereby pay off the mortgage and be sure of a home for herself and family?" The Board, after being assured that these were the facts in the case, the priest promising that he would see that the mortgage was paid and take care of the widow's end of it, granted her request. I looked at that widow as she walked out of that room. There was a widow with little children assured that the mortgage would be lifted. She could see that the roof over her head was secured. The balance was to come in weekly payments. It was only part of her share and not that of the children that was to be used in one lump sum. I could see that widow with that roof over her head and weekly income, raising those children to manhood and womanhood and raising good worthy citizens, at that. If compensation never did anything else we can feel that it did a good thing even in just that one case. There were other cases, of course, but time does not permit me to enumerate them. In my own town there are many cases where the people come to me at my own home. I have been so closely identified with workmen's compensation that many of my people think it was altogether I that gave it to them and I don't attempt to disabuse their minds, either. I am proud of the honor. However, it is not my own any more than it is yours; it is ours. They come there and they tell me what it has done. I told Governor Brumbaugh a little while ago some of the little stories of the happiness and good cheer which it sends into the many homes, and I want you all to know, from my point of view, that it is one of the best pieces of legislation, I dare say along with the Child Labor Law of Pennsylvania, the most far-reaching, most progressive, most humane of any bit of legislation enacted within the history of this glorious Commonwealth of Pennsylvania.

Some few years ago, if you just allow me one moment to divert from my regular subject, I stood right here, speaking to the joint committee of the Senate and House on Child Labor. I told them, at that time, that when I was a boy and discovered what I had been robbed of, I made a vow that I would never forgive the Commonwealth until it had enacted legislation that would make it easier for the boys and girls that were to follow me. The Commonwealth had

neglected me and my dear, old mother, as well as my brothers. I happened to slip past the many pitfalls, by mere accident. Environment destined me to be something else from what I am, but failed. Unfortunately, some of my companions did not escape as I did, and yet all were good boys. Society did not recognize that widowed mother nor her children. It was not concerned whether we were educated or not. I mention this story because it is one of the thousands. The State was not concerned whether we grew up to be men and good citizens or criminals. It had been a fixture worthy of its time, devoted not to looking after the children of the Commonwealth, but should any of those children break or violate any of its sacred laws, then the State would stand ready to spend thousands, yes tens of thousands to punish the victims of its own creation. I said to this committee: "The State has erred in the past and I shall hold it against the State until it redeems itself by the enactment of a good Child Labor Law." The State has redeemed itself. The State has, to-day, in my mind, one of the best Child Labor Laws there is in the United States, and I wish now to say to the State, "Nobly done; I forgive you for all that I, at least, have suffered in the past."

Now, as to the working out of the Compensation Act—of course, you would not expect me to make a speech to you on that subject, without criticism and I would not be truthful if I did not criticize. I am sorry that I can not agree with our friend from York, and yet I do partly agree with him, I agree to this extent, when he says, "Don't amend the Act, it is too young; we will give it more chance to work out." That is my position on the Child Labor law. I think we should let that alone and give it a chance to work out. I think there are certain things about workmen's compensation that should be let alone, but I believe the Act should, however, be amended. One amendment, I think, of great importance is to reduce that fourteen day limit. As it now stands, the injured party must wait fourteen days before any compensation is allowed, other than the doctor bill. I found, at the beginning of the operation of this Act, great injustice had been done, due to that fourteen day limit. A man has been injured, a slight cut in the hand or on the body somewhere, the kind of cut that we generally tie up and then keep on working. The employer demands that he go to the doctor and have it properly dressed to make sure that no infection will set in. With all that, I agree. I agree that it is proper that that should be done, but after that, they have, in some cases, sent the injured worker home and made him lose ten to twelve days' time and come to the doctor every day and prevent him from following his regular work for an injury that was only of a minor character. Yet to make sure that infection would not set in, they make him lose all this time. And then, I have

no authority for saying this, but I have a right to suspect it and good reason to believe it is done to discredit the Act, they say to the workers, "Well, you have got the Law; all this is due to the Compensation Law; here is a man who has lost twelve days and before this Law went into effect he would not have lost any time." Of course, he is down on the law that takes two weeks' work away from him. I feel, that if we revise the law to make the man eligible for compensation the day after the injury, we would abolish that evil. I think the man should be compelled to go to a physician no matter how slight the injury, and great care should be taken that no infection sets in, and, if necessary, he should be kept in for a day or two; no one can object to that; but to send the man home and make him lose two weeks or ten days is, to my mind, a mistake and an evil that should be abolished.

Again, the wages are not so high as some of us thought they were and the Compensation Law discovered that. You look over the allowances made and it is remarkable how low the wages are. The Act fixes a limit of twenty dollars. While some are more than twenty, the great majority are away below it. I mention this to show that two weeks lost for a man should not impoverish him, that is true; but if this man is going to lose two weeks and then two months, due to injury, the two weeks lost is, of course, a hardship for such a family when he gets put on half pay after that. I, therefore, again recommend that the fourteen day limit be cut down.

We also think that for permanent injury the time and amount should be extended; and the amount due a parent, if a dependent upon the child, is far too low. Twenty per cent—just think of that for an old man or old woman, perhaps, dependent upon their boy. We have lots of boys that take pride in being the support of their parents. The boy is killed and we come along with a little twenty per cent, which is, of course, not enough. Besides we should, like other states, pay 66 2-3 per cent instead of as now 50 per cent.

Now the greatest weakness is the abuse of the Act by the insurance companies. Now you insurance men, I want you to listen. If I had my way about it, you would either come cleaner in the future than you have in the past, or lose the right to carry workmen's compensaton insurance in this State. I found not a single complaint where the employer carried State insurance. I have the first complaint yet to reach my ear or my office about the Department of State Insurance. In the beginning, the greatest complaint was against employers who were allowed to carry their own insurance, but that has evened up pretty nicely now. It seems that the employers and corporations who are permitted to carry their own insurance are doing fairly well at this time; at least, according to the reports coming to my office,

they are. The scarcity of labor, lately, may explain the reason for this change of heart, but the casualty companies are getting worse. Gentlemen representing casualty companies, listen! In the beginning, you did pretty well. But here is what some of you are doing now: An employer will have his employes' insurance in your company and when the men get injured, two weeks pass, three weeks, a month, five or six weeks and then the employe says, "Why don't I get my insurance, my compensation?" The employer says, "Yes, I don't understand it; you should have it." Then he goes to hunt up the company and they say, "You will get it when you go back to work." Sometimes you say, "I don't know whether you are entitled to it, or not." I have a case right now that I have taken up for a man. The man fell into a stone quarry, fell some thirty feet while at work. His employer is a good friend of mine, served an apprenticeship under me. He wanted this man to have what was due him, because he paid something like five hundred dollars insurance and he said, "I want my employe to have it." Yet, the injured party was weeks and weeks out of work and not a dollar coming to him and it may be a month or two more yet, before he is able to go to work. There was no question about the accident either. There is no doubt about his being eligible, yet the company is holding him off. I saw the claim; in fact, I filed it for him and then the casualty company said, "Withdraw your petition and we will send you a check in full for the amount due." That looks bad. That is not an honest way to do business. You only consent to pay when compelled to do so. What you do to others who don't have friends to look after their interests, is hard to say. You had better stop that kind of business, it won't do. I have other such cases. I merely illustrated one for you. Last night a man was at my house, a structural ironworker, who was working on a large building in Reading. He is insured like the other employes and his employer wants the man paid. This employe is injured and can not understand why he is not being paid. The employer is not at fault; yet this man told me that he had received nothing after they gave him twelve dollars and a half, all told. What is such a man to do? The average, poor man doesn't know what to do. And then, of course, he lets it go and that is the end of it. Living in Reading, these people know me and some come to my house and tell me about these things. Now, in the first place, this man I told you about, that fell in a quarry, if he was entitled to it, why didn't you pay him? Why would you pay it to him if he was not entitled to it? Why would you tell him that he will be paid if he withdraws his claim petition? There is something wrong. It doesn't look good. I know it is not necessary for me to say anything that will leave an ugly taste in any one's mouth, but I am going to

say this: That you are not going to get away with that kind of business, you are not going to do it, if we have to get an amendment to the Law, denying you the right to carry such insurance. The people of Pennsylvania think they have a good Act, and they have, and they are going to see that it is carried out and you people have got to be decent and help to carry it out or you will lose your right to do business in this State. If you can not compete with State insurance that is your fault, not ours. Practice that which you have been talking so much about—efficiency. Show some yourselves in the management of your own insurance companies and then you may get along all right.

One more subject and then I am through. That is the railroad case. It is peculiar that a great railroad, operating in this State should try to evade the law; yet, on the other hand, a subsidiary company, which is part of the Railway Company is one of the best companies we have, to comply with the law. This subsidiary company carries its own insurance, too. It is a corporation, part of the Railway Company; yet, there, the instant a man is injured he is taken care of. If they would put it up to me to handle their fund and spend it, I could not do any better than they do. There is not a single complaint coming from the subsidiary company. To show you the difference—I just thought I would be sure before speaking to-day—I asked some of the men if they had any complaint to enter against the subsidiary company on the question of compensation. One of the men said, "The only complaint I think could be made is that they are just a little bit too generous. A fellow got his knee hurt sometime ago and I don't believe he got it hurt while at work, yet the Company took the man's word and paid him compensation." I don't say that is right, understand, I merely mention this to show that if they are entitled to it they get it at once. I want to say also, in justice to certain casualty companies, that there are some who are prompt in meeting their obligations.

The parent Railway Company is just the opposite. It hides behind the Interstate Commerce Laws; claims that it is engaged in interstate commerce and, therefore, does not have to comply with the Law; that the Law does not affect it. To show how far they go, we have a case of an Italian who was killed. He was working around the yards and a shifting engine came along and killed him. He left a widow and one child. They had lived in this country only a short time. They knew very few people. They were strangers. He was not a member of the union, but the case was brought to my attention and I tried to help the widow. The railway company said that the man was not eligible because of the fact that he was working at repairing tracks in the yards that were used for interstate commerce purposes

and that the shifting engine that had run over him, just previously had shifted some cars that came from another state and that made him an interstate employe and, therefore, he did not come under the Act. That was pretty far-fetched, I think. Another case was that of a man working on a locomotive who had never worked out of the shops. He was hurt and they held that he was not eligible because the engine was used to carry freight that come from other states.

There are many other cases in these railway shops that are hanging fire on the ground that the injured are interstate commerce employes, and they are not; and practically all those hurt on the road are held up on that same plea. I will cite one of the cases where one of our men was killed at a death trap; others were killed at the same place, before, and you railway representatives know it. That same danger is still there. You "Safety First" friends, go fix it up before you plaster your whole road up with "Safety First" signs. I visited a foundry sometime ago and found it a regular death trap and yet they had the place full of beautiful "Safety First" signs. You railway representatives, you should come under the Law with your road the same as you do in your subsidiary Company. Why can you be half decent and the other half not? Go the whole thing like the Pennsylvania Railroad is doing. You might as well come clean now for you will have to pay the bill. You are not going to get away from it. You will have to pay it all right.

Now, friends, that is about all I feel I care to say at this time. You will understand this is purely an extemporaneous effort. As I told you, I did not have time to prepare anything, but I want to say this in conclusion, that the manner in which everybody took up this Act, or nearly everybody—I mean the employers and employes—has really been inspiring. I found very little opposition among employers, unless it was a little fellow, a fellow employing two or three men sometimes; but the real employers tell me how well they like it. I find the same in other cities and in other parts of the State and, therefore, I feel that the Act is a Godsend to our Commonwealth. Of course, the success is due, primarily, to the good will of the people of Pennsylvania who go along helping the Department to carry out the letter of the law.

I thank you for your attention.

CHAIRMAN JACKSON: We now have a representative of the profession which more than any other in this country gives its time, its vitality, and its life to relieving suffering. It has an unselfish disregard of the money returns, of the material returns to itself. I take great pleasure in introducing to you William L. Estes, M. D., Chairman, Committee on Workmen's Compensation, Pennsylvania State Medical Society, South Bethlehem, Pa., who will speak to you upon The Viewpoint of the Physician, with reference to compensation.

DR. ESTES: Mr. Chairman, Ladies and Gentlemen, we have the three degrees of comparison with regard to engagements in business:—not having time, having time, and not employing the time. Unlike the other two gentlemen I have had time even to write out my speech and commit it to memory and must therefore confine myself to a discussion which I have prepared at the suggestion of the Chairman, who allowed me fifteen minutes. The paper has not only been written out, but boiled down to the lowest possible degree.

THE VIEWPOINT OF THE PHYSICIAN.

By WILLIAM L. ESTES, M. D., Chairman, Committee on Workmen's Compensation, Pennsylvania State Medical Society, South Bethlehem, Pa.

In this great Commonwealth where the number of employes of the various industrial establishments and of the mining and transportation companies exceeds those of any other State in the Union it might have been foreseen that a Workmen's Compensation Law was inevitable.

It seems curious now that with the 11,502 registered physicians in the State who would be so nearly concerned in any Workmen's Compensation Law, and without whose aid it would be utterly impossible to enforce the provisions of any such law, there is no available record to show that any member of the profession was seriously consulted in the framing of the law, nor was any warning given the profession of the terms of the statute which would so immediately affect it. So blind to its legislative privileges and power was the profession, and so careless were we of our representatives' doings "in legislature assembled," that many of us did not know that a Workmen's Compensation Act was on the calendar.

Without notice the law was framed, quietly reported from committee, and with little discussion it passed both branches of the Legislature. When it was an accomplished act our profession suddenly "woke up and began to take notice." It is practically the same thing as befell the medical profession of Great Britain when the British Workmen's Social Insurance Act was passed.

Every social regulation must place restrictions and limitations on some class of society; nor can any purely socialistic (used in its broader sense) law be carried out save in an altruistic spirit by some class of the community. Our democratic government is supposed to seek "the greatest good to the greatest number."

The Law is on the statute books; it has been in force for ten months; its constitutionality has been decided by the Supreme Court of the State. We must therefore accept it whether it is altogether to our

liking or not. If we do not like it and it is a bad law, our remedy according to the late General Grant, is to have it strictly enforced, in order to have it repealed.

But is it a bad law? What has the experience of the ten months taught in regard to it? Wherein shall it be amended?

In order to learn as much as practicable in regard to the working of the law the writer sent a questionnaire to prominent members of every county medical society in the State, and he asked the aid of every councilman of the State Medical Society to ascertain the sentiments of the physicians of his district.

Only twenty-seven county medical societies answered through their representatives. These societies on account of their locations were however those especially concerned in the working of the law. County societies located in the purely agricultural districts had few opportunities to know the effects of the Law.

These are the questions sent out:

1. How does the Law affect the physicians in your district?
2. How does it affect the hospitals in your district?
3. Does it prove a blessing to the working people?
4. What has been the experience with insurance companies in your district?
5. In the light of the experience in your district what amendments would you recommend?

To the first question 21 reply that the law affects physicians favorably; 6 reply that it does not.

To the second question 12 reply that the effect on hospitals is good; 9 reply that it makes no difference; 6 reply that it is objectionable.

To the third question 19 say it proves a blessing to the workingmen; 8 say it does not.

To the fourth question 20 reply that experience with insurance companies has been satisfactory; 7 reply it has been unsatisfactory.

To the fifth question several suggestions of amendment were offered, these will presently be considered.

The reports of the councilmen of the several districts coincide practically with those sent directly to the writer from the twenty-seven county medical societies.

It is evident therefore that a majority of the physicians of the State believe the Law is a good one, and is working efficiently for the good of the workingmen, and not to the detriment of the physicians.

At the recent meeting of the Pennsylvania State Medical Society, the Board of Trustees requested the writer, its chairman at that time, to present suggestions for amending the law. He received the views of the several members of the Board, also he carefully collated and

considered the amendments suggested by the various county medical societies; as a result the following amendments were suggested to, and adopted by this society:

1st amendment—Define "major operation" as used in the words of the act.

This is a very important matter. Confusion, misunderstandings, delay in payments and much heart-burning have resulted from the various conceptions of the meaning of major operation.

Fortunately the Compensation Board has already adopted a definition and construction of the term "major operation." This relieves the situation as regards this matter and clears up many difficulties. Many thoughtful physicians think however that it would be still better to amend this clause by striking out the words major operation entirely and make this clause, (e) Section 305, the latter part of second paragraph, to read as follows, "unless a surgical operation is necessary; in which case the cost shall not exceed, etc., etc."

This is the definition for "major operation," adopted by the Board:

1. A major operation is a surgical procedure which entails immediate serious consequences to the patient.

2. It is a surgical procedure which requires skill and training to perform.

3. All operative procedure other than finger and toe amputations, cleaning and draining and closing the wounds, evacuating pus by incision, the manipulation and reduction of uncomplicated dislocations, the treatment of uncomplicated fractured ribs, the removal of superficial foreign bodies from the eyes, and the removal of subcutaneous foreign bodies, should be regarded as major operations.

This is an explanation. The term major operation would include the setting of fractures of long bones and reducing of subluxations, providing accuracy and efficiency of reduction and retention be demonstrated by X-ray taken before and after surgical treatment, and providing further that in all cases of fractures the attached form be made out in duplicate and forwarded to the Secretary of the Bureau of Workmen's Compensation; provided further, that all fees and charges for a major surgical operation shall be limited to such charges as are reasonable for similar treatment of injured persons of like standard of living in the same community and where such treatment is paid for by the injured person himself.

2nd amendment—Extend the period of direct payment for treating the injured workman.

Various suggestions have been received in regard to this. To make it extend over the whole period of disability as in the Ohio Law, gives

inducement for malingering which might in many cases result in serious extra expenditure by the employer. It would restore the old conditions which are so familiar to many of us in former damage suits. It is especially desirable to remove every possible inducement to malinger, and to do away with all possibility of damage suits in the future management of injured workpeople. Employers would be quick to appreciate this point and they would no doubt strenuously oppose an amendment of this kind.

The treatment of the majority of accident cases need not extend over two weeks. If the time limit were doubled, or made thirty days as a maximum, it would so nearly include all ordinary accident cases that it would satisfy physicians generally. The definite statement of a limit to the liability of the employer for the treatment of the employe would not encourage very serious malingering.

3rd amendment—Increase the limit of payment for "reasonable surgical, medical and hospital services," etc., etc.

The matter of proper fees in return for treatment of injured employes is the crux of the whole difficulty, it would appear from the expressions of most physicians.

The requirements of insurance of the payment of compensation, in the Workmen's Compensation Law, is the feature which though vital to the workmen is exceedingly troublesome, vexatious and sometimes humiliating to physicians.

Chairman Mackay and Councilor Bohlen have both called attention to the fact that physicians are not limited to twenty-five or seventy-five dollars as a maximum charge for their services in any given case. The sentence in clause (e) section 305 reads: "The cost of such services, medicines and supplies shall not exceed twenty-five dollars, unless a major surgical operation shall be necessary; in which case the cost shall not exceed seventy-five dollars." They evidently construe "the cost" to mean the cost to the employer. As the Law not only recognizes but requires insurance, this construction applies also to the insurance companies. If then the cost to the employer, or to the insurance company shall not in any case exceed the prescribed limit of twenty-five or seventy-five dollars, the physicians must hold the injured employe (the patient) liable for any additional charge for services, no matter how valuable in material or time these services may have been to the interest of the employer or insurance company. Though the members of the Board have formally and officially given this rendering, as a matter of practice insurance companies and physicians have taught, by precedent, the injured employe to understand that they will not be at any expense for treatment after the first two weeks of incapacity. It is practically impossible therefore for the physicians or hospitals to obtain more than

the words of the Law indicate. In many instances this is a great hardship to the physician and is far below his ordinary charge for the like service in his own community. Physicians as taxpayers and consumers must stand their proportionate burden of the extra cost of manufactured commodities and of transportation due to the expense of the Compensation Law to employers. It should certainly not be expected of them to give their time and material to beneficiaries under the Law for less than they would to their patients generally.

The maximum limit should be increased. It would seem best to adopt a sliding scale commensurated with the service rendered, but not to exceed two hundred dollars in any case.

As regards the insurance companies, they are purely commercial enterprises; they possess no altruistic features whatever. They are working to make all the money they can out of their contracts with employers of labor. Naturally they try to procure all needful service at the lowest possible cost.

At the beginning of their business in the State, physicians were not awake to the situation. So lamentably badly acquainted were many physicians with the terms of the Compensation Act they failed to grasp their opportunity. They did not disassociate these purely business underwriters from the legal machinery for carrying out the provisions of the Law. Many of them apparently thought in accepting positions with insurance companies they were assisting in carrying out a noteworthy altruistic enterprise. Others thought the almost certainty of payment, and prompt payment overbalanced the pitiably small fees they were offered. Still others jumped at what seemed an "easy job" not considering the returns.

The aftermath is in many instances and respects highly disconcerting.

The profession is now, after the evils have been organized, put into effect, and endured for ten months obliged to make the most difficult of all attempts, namely—to remedy a business error which has been condoned, accepted and practiced. Some of the best class accident insurance companies have not made any schedule of excessively low fees to be paid to their medical examiners. These companies will be supported by the profession and through their county and state organization physicians will endeavor to insist upon a sliding scale of fees from insurance companies in accordance with the fees charged for a like service for the same class of persons in the community.

Another amendment was suggested by many physicians but not presented to the State Medical Society and not adopted by this or-

ganization, about which there seems serious disagreement in the profession.

Injured employes shall have the right to select their own family physicians to treat them.

One may see endless complications in this suggestion. In the first place if employers are denied the privilege of selecting the physician they may feel in many cases that their liability has been increased and prolonged by the treatment of unqualified men over whom they have no control nor from whom have they any business or legal remedy. As a business proposition this does not seem fair.

Again, for injuries a surgeon should be called; few family practitioners have the requisite skill and experience to meet in the most modern way the emergencies of a serious surgical condition. The sufferings and disability of the injured man may be increased and greatly prolonged by the injudicious selection of a surgeon.

It will be greatly to the advantage of the employers to have their employes restored to work as soon as possible and in as efficient a condition as possible, hence they will see to it that they obtain a well qualified man or men to serve their injured workmen. This surely is also more humane for the injured men.

Most of the best modern hospitals have a definitely organized staff of surgeons to carry on the work of the institutions, and the management of the hospital not only expects but requires them to treat the cases sent to the institution. Many injured men must go to hospitals. It would therefore result in serious confusion and disorganization were it permitted the injured workman to demand that his family physician shall treat him in the hospital. Besides as stated above it might result in placing an inexperienced man in charge of him instead of a man whose qualifications had been proved before he was given the place on the hospital staff.

This certainly is an important matter. The difficulty can be removed only when, as several of the suggestions have said, "physicians have qualified themselves much better in order to be up to the proper standard for assuming the care of the injured employes."

As was suggested in the early paragraphs of this paper, to carry out the provisions of any law which radically changes the social customs and imposes new practices on a community requires true altruism on the part of some members of the state. It is not fair nor just that upon one class or profession there shall fall the whole burden of the altruism. From the beginning, the medical profession has cherished the spirit and practice of altruism. Modern conditions impose greater pecuniary burdens upon physicians, and modern society expects longer and better preparation for the work, and much more costly service than ever before. Without renouncing the spirit and

practice of altruism, physicians must see to it that they conduct their affairs in a good business way and they must have adequate remuneration for services from those able to pay. It would seem that the tendency of the Law is to reduce the remuneration of physicians. The lawyers claim that their profession is most affected in this way by the Law. They are negatively affected however, for if their cases are reduced in number they are to this extent, not required to work. Physicians however must be employed and in order to carry out the law they must serve. They work more and may receive less. If all this is true then it is necessary and proper to amend the Law.

We have however in mind that some of the present clauses of this Law are tentative, they are on trial. Physicians will have patience, they will carefully note the imperfections and shortcomings of the Law and will present them in a proper and dignified way to the Compensation Board.

The Trustees of the Pennsylvania State Medical Society received notice and in one or two instances have had grave complaint made of the impatience and display of undignified and unprofessional temper on the part of some members of our profession in regard to the working of some sections of the Law. These instances of lack of restraint and unmanly outbursts are deplored and repudiated by the leading members of our profession.

The Pennsylvania State Medical Society has agreed upon the amendments suggested in this paper.

We have in this society over 6,500 members. Our members are in every county of the State. County medical societies may be powers in their respective counties if they are thoroughly organized and are quite agreed upon the things they wish to have done. These members of the county medical societies organized into the Medical Society of the State form a greater power, if they all agree. We wish to be sure that we are right.

We also remember that the Law is intended chiefly for the benefit of the workingmen. Physicians are willing as far as they may go, without serious detriment to themselves, to shape their business to assist in this good work. It is needed and it would be fine to have the Law so established that the workmen are well protected and well insured.

Finally, we bear another matter in mind. These Compensation Laws in other countries have invariably been the precursors or a part of a General Social Insurance Law. We may expect this also to follow in Pennsylvania.

The medical profession will not again be caught napping nor indifferent. We have a right to be heard and to be consulted in the drafting of these laws and we will now constantly be on the alert

not simply to protect ourselves, but to do all we can to assist in making our Commonwealth ideal for the life and happiness of all its people.

CHAIRMAN JACKSON: We will have the discussion opened by Mr. Furman this afternoon immediately after Mr. Dow's paper.

We will now hear the reports of committees appointed at the last Conference. The chairman of one of these committees is Mr. S. F. Loree, President of the Delaware and Hudson Company, one of the great leaders of industry in this country. I take great pleasure in calling upon Mr. Loree to make the report.

Mr. Loree then presented and read the following report:

REPORT ON RAILROAD TRESPASSING.

By Committee Comprising L. F. LOREE, Chairman, W. C. WILSON, W. F. GLEASON and W. H. TRUESDALE.

The Delaware and Hudson Company
Office of the President.
32 Nassau Street, New York, November 20, 1916.

Mr. John Price Jackson,
Commissioner, Department of Labor and Industry, Commonwealth of Pennsylvania,
Harrisburg, Pa.

My dear Sir: Since the appointment in April, last, of the undersigned committee representing the Railroad Industry of the State of Pennsylvania in matters of safety and hygiene, it has given its attention to the matter of trespassing upon railroad property.

During the fiscal year ending June 30, 1915, the latest figures available, 5,084 persons were killed and 6,448 persons were injured while trespassing on the railroads in the United States, a total of 11,532. The total number of all fatalities was 8,278, and of these 5,084, or 61 per cent, were trespassers.

During the three months from July to September, inclusive, 1915, there were 1,424 trespassers killed and 1,652 trespassers injured, a total of 3,076, on the railroads of the United States, showing that on the average these casualties are on the increase.

According to a compilation by the California State Railroad Commission, during the last 25 years fatal accidents to trespassers on the railroads in the United States amounted to over 112,000 or 53 per

cent of the total. This record would be lamentable enough if those who suffered were confined to the tramp and hobo class, but when, as the statistics indicate, we find that 75,000 of the total number killed while trespassing were citizens of the locality in which the accidents occurred, and 13,000 were children under 18 years of age, the result is both disgraceful and appalling.

The annual report of the Public Service Commission of the Commonwealth of Pennsylvania for 1913-1914, the latest in print, shows the total number of all persons killed on the railroads during that period as 991, and of these 555, or 56 per cent were trespassers.

The grade crossing problem is one which is met with, more or less, in all countries, but trespass accidents are largely confined to the United States. In Europe the property of the railroads is no more used for public thoroughfares than are the privately owned ranches and farms in this country; and even Canada, with more excuse than the United States for permitting trespassing on and around railroad tracks, has rigid antitrespassing laws which are strictly enforced.

The State would not tolerate manufacturing plants permitting anyone who desired to wander at will around dangerous machinery and they would be compelled to keep such people out. If they could not do it, the State would see that proper police aid was furnished. Yet the case is exactly parallel with railroad trespassing. The railroad companies are anxious to have strong antitrespass laws, and in the few States in the East where there are such laws, they do their best to enforce them. But they cannot keep people from their property unless laws have been passed and unless, when passed, they are enforced.

The State has expressed its grave concern at the number of deaths and accidents to its citizens. The State has far more power to conserve the interests of its citizens in this respect by proper measures to protect them through the prevention of trespassing upon its railways than it is possible for the railways themselves to accomplish by any independent efforts of their own.

While no exception can be taken to the action of the State in asking its corporations and citizens to take active steps in this matter, much more can be accomplished by the State itself, both by its action and by its example. Such being the case, it ought to exert its own efforts with the utmost energy, and until it does do so it is in no position to urge individual or corporate action by any of its citizens.

Your committee, therefore, knows of nothing that would so encourage the railroads to increased effort to reduce accidents as an example set by the State through proper legislation and the exercise of its police power to free their property from this menacing burden. We believe this can be accomplished by a systematic campaign within a period of two years, and strongly recommend that the Governor

urge upon the Legislature the passage of suitable legislation, with proper penalties, to prohibit trespassing upon railroad property.

In this connection, we beg to suggest an amendment to the Penal Code of the State as follows:

Any person who, not being connected with or employed upon the railroad, shall walk upon or along any railroad track or tracks, or right of way, or other railroad property, except where and when necessary to cross the track or tracks or right of way where they shall be laid across or along the streets or highways, shall be guilty of a misdemeanor and punishable by a fine of not less than one dollar, nor more than fifty dollars.

The intention of this amendment is to impose a special, although small, penalty for trespassing, with the expectation that magistrates will be induced to impose it with certainty and thus tend to put an end to the evil, the committee feeling that a light but certain punishment will be more effective than a heavy penalty seldom imposed.

Yours very truly,

(Signed) L. F. LOREE, Chairman.
W. C. WILSON,
W. F. GLEASON,
W. H. TRUESDALE,
Committee.

After considerable discussion, the report of the committee was, by vote of the conference, referred to the Public Service Commission as the department of the Pennsylvania State Government which has authority in regard to accidents on the right of way of any public utility and from the point of generation of the power that operates that public utility.

The Conference, at 12.30 p. m., adjourned until 2 p. m.

TUESDAY, NOVEMBER 21st. 1916.

AFTERNOON SESSION—2 O'CLOCK.

Chairman, JOHN S. RILLING, Member, Pennsylvania Public Service Commission.

COMMISSIONER JACKSON: The meeting will please come to order. I take pleasure in introducing to you The Honorable John S. Rilling, a member of the Public Service Commission of the State, who will preside over the meeting this afternoon.

CHAIRMAN RILLING: Ladies and Gentlemen, I have been called upon to preside over your deliberations this afternoon without giving the matter particular consideration, on account of the limited time at my disposal. I notice by your program, however that you have an abundance of talent to address you, and therefore I shall not undertake to make any remarks at this time. The subject that you have under consideration, the accident problem, is one that is receiving much attention at this time. I can hardly think of any subject that has received so much attention and in which so much progress is being made. We will have this subject discussed from different angles. We will have the viewpoint of the employer as well as the employe. The first speaker on our program this afternoon is Mr. S. R. Tarner, Order of Railway Conductors, Pittsburgh, Pa., who will discuss the matter from the viewpoint of the employe.

I take great pleasure in introducing Mr. Tarner to you.

MR. TARNER: Fellow citizens, I have been requested to present to this Efficiency Conference the employe's point of view on The Accident Problem of the Steam and Electric Railways. I assure you that I consider it a great privilege to perform that duty to the best of my ability. I look upon this as a most important movement in which every citizen who has the interest and the welfare of the Commonwealth at heart should take an active part.

I want to say that I was very much impressed with the discussions that took place this morning, and also say that as a railroad man and recognizing the position of the railroad men, that they are all interested in the things that concern the welfare of the people of this Commonwealth. They not only interest themselves in the things that concern themselves upon the rail, but they interest themselves in everything that is directly connected with themselves and the welfare of the people of this Commonwealth and the Nation.

I want to say with reference to the last Session of the Pennsylvania State Legislature that I believe it will go down in history as one of the most progressive Legislatures ever conducted in this Commonwealth in that it enacted so many good laws, so many acts along the lines of safety and for the protection of the people of this Commonwealth. I want to say to you that that most important of the acts of legislation, the Workmens' Compensation Act, was one of the greatest acts that ever was chronicled upon the statutes of any state of any country in the interest and welfare of the people, and while I might differ somewhat with some few things that have been said with respect to that Compensation Act, I might say

that I know of not a single law that ever was enacted that could not be improved upon, and I believe that at the next session of the Legislature in Pennsylvania they will give careful consideration to some important features of that Law in order that it may he broadened and fulfill its mission.

With reference to the transportation brotherhoods of this Nation I might mention just a word. I believe that no real understanding can be had of the transportation brotherhoods of this Nation without a brief sketch of what they have been intended for. They are organized for the purpose of protecting their members industrially and they have always believed that it was infinitely hetter that the differences that arose between themselves and their employers be settled by direct negotiations instead of legislative enactment; hut later on they realized that by appealing to the legislatures of the several states and to Congress they could more peacefully accomplish the end that they had heen aiming for in the protection of their hrothers and the interests and the welfare of all the people.

In accordance with the request that I present a hrief outline of the employes' point of view of those things that are necessary for safety upon steam railroads and electric railways of our State, I have prepared an article in writing and, while I detest reading a speech, or an address as you might call it, I shall crave your indulgence for just a few moments while I read what I have outlined from the employes' point of view.

THE ACCIDENT PROBLEM OF THE STEAM AND ELECTRIC RAILWAYS.

By S. R. TARNER, Order of Railway Conductors, Pittshurgh, Pa.

I have the honor to present to the Fourth Annual Industrial Welfare and Efficiency Conference, held under the direction of the Pennsylvania Department of Labor and Industry in the hall of the House of Representatives, Harrisburg, Pa., November 21, 22 and 23, 1916, The Accident Problem of the Steam and Electric Railways as viewed by the employes.

Not being familiar with their operations, I shall leave the discussion of the electric railways to others and confine my discussion to the steam railways or where steam and electricity intermingle.

The Transportation Brotherhoods of which I have the honor to be a member are, we might say, Safety First Committees, in that they are continuously striving to have adopted many safety devices for the safety and protection of travelers and employes upon railroads, and their efforts in the Legislature have been along the following lines:

First—Clearance and Obstruction.

The representatives of the railroad employes have been endeavoring for some years past to have passed by the Legislature of Pennsylvania a Clearance and Obstruction Act to eliminate as much as possible, dangerous overhead obstructions, such as bridges, tunnels, side clear-

ance of cars, etc., more particularly the clearance in yards. We find that in many places, the yards have been built years ago for the accommodation of the smaller cars, and now the tracks are not spaced far enough apart to give enough clearance for the safe and proper handling of the later and larger built cars.

Second—Rubbish.

It should be seen that the tracks are kept clear of rubbish, such as pulled out drawheads that are often left lying between the tracks. We find that many times cars are overloaded with coal and in the movement of cars, more especially in the shifting of the cars in the yards, the coal falls off and is permitted to remain along the tracks for some time. In addition, in replacing old ties, they are often permitted to remain between the tracks for some time. These things are all dangerous to the safety of the trainmen, and the fault seems to be that the instructions issued by the railroad companies for their immediate removal, are not rigidly enforced or strictly complied with by those who are authorized to execute them, and through this fault many employes receive injuries.

Third—Bridges.

We find in many cases where bridges and trestles have no sidewalks, the trainmen and others who are required to use them are compelled to place themselves in very dangerous positions in the performance of their duties. For instance, the trainmen in getting off have no place to alight except from the rear platform or bumper. In the case of the flagman—should it so happen that it would be necessary for him to cross a bridge without a sidewalk, in order that he might get back a sufficient distance to insure full protection to his train, fearful that he might be caught on the bridge by a following train before he could get off, and having no place of safety to go to in order to get out of its way, he takes advantage of the circumstances to protect himself by doing what is known as "short space flagging," thereby placing in danger his own train, and the lives that may be thereon. Many lives have been lost by the practice of "short space flagging." Trackmen and others are subjected to the same dangers by these walkless bridges. There should be sidewalks on all bridges and trestles.

Fourth—Cuts and Embankments.

There should be strict attention given to cuts and embankments by removing rocks and earth that are liable to become loose in wet weather and come down upon the tracks at any time causing derailment of trains, bringing injury to employes and others. The gutters

between the track and embankment in such places should be kept clean and clear of earth and debris so that in the case of falling rocks and sliding earth, they may not come upon the tracks.

Fifth—Headlights on Locomotives.

There should be a headlight of stronger power used upon locomotives than is used at the present time by many of our state railroads, so that the engineer can more clearly see any obstruction upon the rails and get his train stopped or slowed down sufficiently to avoid serious accident. The Engineers' Brotherhood of Pennsylvania petitioned the 1915 session of the Legislature for a law on this question, but failed in their efforts to have it established.

I might say that this question is now before the Interstate Commerce Commission for consideration.

The Brotherhood of Locomotive Engineers of the United States have petitioned this Commission for a ruling to compel the railroad companies of the nation to give them a headlight of higher power, indicating that this great army of engineers recognizes the necessity of the stronger and more powerful headlight. However, I feel that this does not release the authorities of the several states from their duties on this question.

Sixth—Automatic Locomotive Bell Ringers.

The bell on the engine is ofttimes found to be inoperative. This should be given more attention. The bell should always be in condition so that it will ring easily and with a clear sound, while passing through towns, over road crossings and dangerous places. It would be of great benefit and advantage if there were placed upon our engines, what is known as the automatic bell ringer, and more particularly on the high speed trains where the enginemen are kept continuously busy and on the alert for signals. In this way, they would be able to start the bell by the touch of the finger and let it ring continuously until the dangerous place had been passed, and then by the touch of the finger, the bell could be stopped.

I might say that the Pennsylvania State Legislature Committee of the Brotherhood of Locomotive Engineers presented to the 1915 session of the Pennsylvania Legislature, a bill asking for a law that would compel the railroad companies of our State to place on all engines an automatic bell ringer, but like many other good bills intended for safety first, it was peacefully buried in the House.

Seventh—Automatic Grade Crossing Bells.

Automatic bells should be placed at all grade crossings where there is no watchman maintained, and kept in good working condition for the protection of the travelers upon the public highways,

and I do not know but that it would be a very good thing for the State to require the elimination of all grade crossings for we find so many accidents at street and road grade crossings.

It reminds me, fellow citizens, of the report that was read here this forenoon in which our attention was called to the awful slaughter of humanity upon the railroad tracks of our nation by those who are maliciously, we might say, using the tracks as a public highway. It reminds me of some few years ago when I had the pleasure of sojourning across the deep Atlantic in some of the European countries and there witnessed a condition different from what we have in this country. It presented an appearance of this kind to me: That there the bars were up to the people of the European nations or the countries that I traveled through, and particularly England; that the people could not trespass upon the railroads unless the bars were taken down; and I learned over there that the railroads, all being fenced in, where there was no overhead passageway for the people on the public highway or an underground way, there was a watchman and there were gates there and many persons on the public highway who wished to cross the railroad tracks could not do so until the watchman had sprung the gates across the tracks and set the signal in the distance; and therefore the proper protection was given to the people of that country so far as travel or trespassing upon the railroad is concerned. Sure, if you open up the bars and gates and let them go, they will drive into dangerous places; so, therefore, my fellow citizens, these gates or bars should be raised in order to bring about the proper protection to the people. And I think and believe this: That you are not going to accomplish very much in the preservation of the people, or protect them from the danger of trespassing upon the railroads of our country until you fence in the railroads and establish conditions that will make the public unable to trespass upon the railroad until they are put to some inconvenience, and then impose a severe penalty upon them for trespassing upon the railroad.

Eighth—Tracks.

The track being the most important feature in the safe operation of trains, it should be kept in perfect order and a sufficient force of trackmen be kept thereon to do the necessary work in the upkeep of the roadbed, so that it will be at all times able to withstand the pressure of the trains.

Ninth—Long Heavy Trains.

The handling of the long heavy trains of the present day is a very serious and important question. The Transportation Brotherhoods have been recommending many different ways to overcome the dangers incident thereto. There is no class of people who know and

understand the dangers incurred in the handling of these trains better than the men who man them, and they have repeatedly petitioned the railroad companies that they be made lighter so that they could more safely handle them and move them from one terminal to another in a reasonble length of time. I might call your attention to a recent act of the United States Congress in which the Transportation Brotherhoods played some part, and that is the noted "Eight Hour Law." The Transportation Brotherhoods made a demand upon a nation wide conference of managers of the railroads of this country asking for an eight hour day and time and half-time for overtime. The time and half-time for overtime was to create a penalty that would make it unprofitable for the railroads to operate their trains after they had kept the crew on duty eight hours, believing that by this plan they would force the railroad companies to break up the practice of running these long, heavy, dangerous trains.

The Trainmen believe that a man who has performed the duties of a trainman continuously for eight hours, has performed as much manual labor and has undergone as much mental strain as is within the physical endurance of mankind, and that after eight hours, they do not feel themselves physically qualified to perform the duties incident to the safe operation of the trains.

At the 1915 session of the Pennsylvania State Legislature, the Transportation Brotherhoods presented a bill asking the Legislature to establish a law limiting the length of a freight train to not more than one-half mile, believing that a freight train one-half mile in length is long enough to be handled with comparative safety.

This was another way the Transportation Brotherhoods hoped to break up the practice of operating these long, heavy, dangerous trains of the present day. This bill also found a peaceful resting place in the Senate Committee.

I might mention a few of the dangers incident to the handling of these long heavy trains. It frequently happens that trains are broken apart by the pulling out and breaking of drawheads, which oftimes causes the cars to buckle, spreading them over the different tracks. I believe that if the reports of accidents were looked into it would be found that we have had in very recent days accidents in which trains on opposite tracks running into the wreckage of the buckled train before a warning signal could be given, caused serious injuries to trainmen.

We find many trainmen injured by the starting and stopping of these long trains. For instance, take a train of some 80 or 100 cars, and you will find approximately 30 to 40 feet of slack. If the trainmen are not exceptionally careful there is bound to take place a severe jolt, and in this way there have been many men thrown from cars and severely injured. We find a great deal of trouble along this

line particularly so after the men have been on duty continuously for longer than eight hours in which time they have become so fatigued and worn one that they naturally become indifferent to their duties.

Tenth—Safety Appliance Act.

There should be a more strict adherence to the safety appliance acts, and more attention should be given the hand brakes, so that, in case of a failure of the air brake, the trainmen can better control their trains. We find a great deal of fault upon the part of some one in not seeing to it that the hand brakes are kept in good condition. A great deal of difficulty is experienced in handling trains and in switching cars in the yard where the air is not used. Many trainmen are injured, and often death results from this cause. It should be seen to that cars loaded with coke, coal and other materials are not overloaded or piled too high up so that the trainmen in crossing over them, may not be subjected to dangers while performing duties incidental to the safe operation of their train; also, in winter weather, it should be seen to that cars are kept clear of ice.

Eleventh—Passenger Trains.

In the operation of passenger trains, I would say that on the suburban trains, operating in and out of the large cities, there should be at least one brakeman to every two passenger coaches, cars known as the day coaches, in order that passengers getting off and on trains may be given proper care. On the long run trains where the make-up is composed of sleeping, parlor, private, mail and express cars, the Full Crew Law of Pennsylvania and of other states where the Full Crew Laws are in operation, have very ably provided a sufficient number of men, and are playing a great part in the safe transportation of the passengers on these trains.

I might at this time call attention to some of the violations of our Full Crew Law—violations that were presented to the Public Service Commission some time ago for their consideration. The Public Service Commission having ruled them as violations, the railroad companies have applied to the Superior Court in protest against the Public Service Commission's ruling and now we are patiently waiting for the ruling of the Superior Court in order that these dangerous practices which are in violation of the Law may be overcome, and I might mention the cases. They are: The question of the running passenger trains without a baggage-master in violation of the Law, whereby the attention of the other members of the crew is detracted from their duties necessary to the safety of the passengers, by having to look after the duties that should be assumed by the baggage-master. The case of the railroad companies delegating the duties of

the brakeman to the cafe and dining car conductors causing the dining car or cafe conductor to act in a dual capacity whereby he can not give proper attention to the train and to the patrons of his car both at the same time. The question of running trains consisting of United States mail cars without a platform on the rear end of the rear car, as required by section 7 of the Full Crew Act. This provision was made a part of the Law for the purpose of giving the trainmen a safe place to get off and on their trains; to get out on the rear end of the train to turn their rear marker lights, which indicate the rear of the train, and the tracks upon which it is running; this must be done in crossing from one track to another for the information of following trains, and trains running in the opposite direction. This is a very dangerous duty to perform by trainmen, particularly so on dark and stormy nights and in the winter time when the platforms are covered with ice, and the railroad trainmen of this State are now very anxiously waiting for the decision of the Superior Court in order that they may realize the benefits and protection of that law. We believe that whatever the law is, it should be strictly and cheerfully adhered to.

Another feature most important in the operation of trains, that should attract a great deal of attention and consideration, is the running of these trains at such a high rate of speed. Just as long as these railroad companies are permitted to load these trains to such an enormous tonnage and with so many cars to the train, and then run them over these railroads at the high rate of speed that they are running them in this present day just so long can you expect at any moment and any place, serious accidents to take place, and the cost will be life and limb; and I believe there is no just cause for this practice. I believe that it should be the duty of the State and the Nation to control all these things, and until such time as they take a firm hand and see to it that such laws are created and caused to be enforced that will in a great measure eliminate these dangerous practices, I can not see that there can be very much improvement made in the way of safeguarding those who are compelled to travel upon our railroads.

It should be borne in mind that these railroad companies should not be harrassed or embarrassed to such an extent that they can not operate at a reasonable profit. It should be seen to that they are properly regulated in the interest of safety, and then seen to that they get a fair and just remuneration in rates for transportation.

Twelfth—High Cost of Living.

Another important question that enters largely into the Safety First Movement is the high cost of living. Unless a man is well blessed with the necessities of life, such as food, clothing and shelter

and is square with his fellowmen and at peace with the world, you might just as well try to still the restless sea as try to compel humanity's obedience to duties, therefore, it is imperatively necessary that the Legislature take steps to bring about a condition whereby the workers can more comfortably secure these necessities.

Thirteenth—Employer and Employe.

To accomplish the desired results in the Safety First Movement, there must be a real harmonious and friendly co-operation between employer and employe, and they must co-operate continuously to that end.

The employer must recognize the fact that his employe is not a commodity but a human being with certain rights and privileges whose interests are those of his employers.

The employer must at all times manifest an interest in his employe that will make the employe feel that he is a copartner in the business.

The employer must be careful not to exact unnecessary duties of the employe that will have a tendency to make him indifferent to his duties.

In my experience, I have found so many employers who fail to interest or concern themselves in the little things that concern the pleasures of the employe.

The employe must also recognize the fact that he owes to his employer certain duties and that he should at all times strive to perform his duty to the best of his ability. All these things have a direct relation to the safety and protection of mankind and should be given careful consideration by the legislative body.

CHAIRMAN RILLING: I am sure we have all enjoyed this instructive and interesting address from the viewpoint of the employe. We will now have the pleasure of listening to Mr. J. C. Rose, Chief Claim Agent, Pennsylvania Railroad Company, Philadelphia, Pa., on the same subject, The Accident Problem of the Steam and Electric Railways.

MR. ROSE: Mr. Chairman, Ladies and Gentlemen, it was my desire to speak to you from memory what few words I had to say. Unfortunately I have not had time to commit the facts that I am going to present for your consideration and I have not the remarkable memory of my friend Mr. Farquhar.

I was asked to address you at some length on the Accident Problem of the Public Service Corporations—The Chief of the Department of Labor, I think, issued that invitation. A little later on, my invitation was modified by the suggestion that I present an essay of not more than twenty minutes on The Accident Problem of the Steam and Electric Railways. That was Dr. Patterson's invitation; and as the printed program of this Conference gives the second subject I feel somewhat constrained to limit my remarks to that subject. Noting your attitude toward the previous speakers and what has come when they sat down I shall be brief so that I shall get what is coming to me at the earliest possible moment.

THE ACCIDENT PROBLEM OF THE STEAM AND ELECTRIC RAILWAYS.

By J. C. ROSE, Chief Claim Agent, Pennsylvania Railroad Co., Philadelphia, Pa.

The accident problem of the steam railway, with which class of public service corporation I am associated and to which I shall rather confine my discussion, is a complex one in that there is inherent in the industry an accident hazard directly affecting many other classes of citizens than its own immediate employes, and the responsibility, therefore, is more diversified than that of any other institution.

The situation as to the steam railway might better be stated as containing many problems each complex in itself, and with that idea in mind I have divided the main subject into five individual parts or classes as follows:

First: The safe transportation of passengers.

Second: The security from injury of the employe in all branches of the service.

Third: The protection to the traveler on the highway in his right to cross the tracks.

Fourth: The licensee who is on the premises of the company in various capacities.

Fifth: The trespasser.

As to the passenger, I feel fully justified in asserting that on the part of the railroad the accident problem is solved within the compass of human control, and I believe that the statement needs no qualification. What the railroad companies have done toward the accomplishment of that end, the most desired of all their purposes, is quite common knowledge.

In the early days of railroading when the one train on the trunk line, which then had no branches, ran every other day, weather permitting—and that is not so very long ago either, as some within this hall may have had an experience as a passenger for hire under those conditions—there was no need for a block signal system nor for the very many other extensive and expensive improvements which have been projected solely for the purpose of securing the safety of those who commit themselves to the care of this common carrier; and, although it is said that necessity is the mother of invention, railroad companies have developed that security far in advance of any public demand or economic necessity.

There yet are train collisions and train derailments but it is seldom in these times that they are related to causes within the control

of governing powers. To-day there is no indulgence of the activities quite as safe as riding on a railroad train.

It is not necessary to bring to your attention the specific improvements which enable one company to advertise the fact that upward of 500,000,000 passengers were carried by it in a continuous period of time without the loss of a single life in a train accident. The result speaks for itself as a finished development of the science.

The second division I have made for the sake of convenience and brevity, is the security from injury of the employe.

The railroad business comprises a greater variety of occupations than is contained in any other industry, and in connection with the foregoing, I would first say that the least of all danger to the employe, inherent in the industry, is in the train service, the carrying of passengers and the transporting of general merchandise having been made as safe as human ingenuity and intelligence can obtain.

In the shops where rolling stock is manufactured and repaired, and other industrial work performed; on the right of way where the tracks are constructed and kept in shape for the movement of trains; in the warehouse where merchandise is handled; and even in the office where great numbers of persons are engaged in the general furtherance of the work, every known device for the protection of life and limb has been installed and every precaution taken to insure the employe against accident even inherent in his work. The situation as to the employe seems to have been narrowed down to the element of self-control. But this is not a matter associated with the railroad business alone—the safety of the employe, it rather is common to all industries and properly should be treated by itself.

The educational feature is a prominent one and I believe that you are to have the benefit and pleasure of hearing Mr. Vincent Colelli, Interpreter of the Pennsylvania Railroad Company, on the subject, particularly with respect to the Anglicizing of the foreigner. A great many accidents are directly traceable to ignorance of our language and customs, and when a railroad company feels called upon to issue to employes working on or about the tracks a book of instructions printed in nine languages, the necessity for viewing that phase of the service as an important one can be appreciated. Twenty-five years ago the only language known on the railroad tracks of this country was Irish and we are, in comparing the conditions of those days with the situation which exists at this time, willing to take back all that we have said about the frailties of that labor. But that brother of common tongue and passions has gone to the higher calling of politics and has left no worthy successor.

I have just a few more words to say about the employe but desire to treat the subject more generally and will again refer to it in a closing word.

The third is the protection to the traveler on the highway in his right of crossing the tracks.

The perfect solution of this problem is, of course, the elimination of the level crossing, and I think it is common knowledge that the railroad companies throughout the land are exerting themselves to the fullest extent of their financial resources toward the accomplishment of that end, yet much of the achievement has been nullified by the opening of new highways across railroads at grade in violation of the principles of public policy. But what of the traveler on the highway as to his duty?

In an address I had the privilege of making before the National Safety Council in Philadelphia just a year ago this was my subject and I take the opportunity of repeating the recommendations at that time presented, that the traveler on the highway be required by statute to stop, look and listen before entering upon a railroad track, failing in which obligation a fine in substantial amount be imposed, one-half of which to go to the informer.

With all the advertising of horrible accidents in the daily press the driver of the automobile continues his rushing over the highways of the country and across railroads with little or no regard for his own safety or that of those whom he may have taken into his care. My personal observation is that not one person in five takes any precaution at all in going over a railroad track, which substantially is confirmed by a test recently made on one of the large railroad systems of the country where 17,000 motor vehicles were held under observation while crossing railroad tracks. In 69 per cent the drivers looked neither way; in less than 3 per cent they looked in one direction only, and in but 28 per cent did they look both ways. A large number, 3,300 in fact, ran their vehicles over crossings at reckless rates of speed without the slightest regard even for the first law of nature.

At the present time it is estimated that there are 2,500,000 automobiles in constant use and it recently was said by a manufacturer of motor vehicles that at the end of the next five year period there would be not less than 10,000,000 motor driven vehicles upon our highways.

It is a failing of the American people that a remedy is not applied to an evil until the community is shocked into action, and I feel that this Commonwealth is grossly negligent in not better regulating this traffic and exercising proper control over it. This does not relate alone to the travel over railroad crossings but has equal force with respect to the use of public thoroughfares in towns and cities.

In this connection, while passing, I would also call your attention to the lack of proper regulations for the granting of licenses for operating motor vehicles. The permission is given without due regard

to the qualifications of the applicant, and I am sure you will agree with me that present practices in this respect should be corrected by state laws affording better protection to the safety of the pedestrian in his inalienable right to life, limb and the pursuit of happiness. The person who is morally, mentally and physically qualified to operate a motor vehicle also is entitled to protection against those not possessing such attributes.

I should like to have more than a mere word with you on this vital subject on an occasion when my involuntary limitations shall not be so restricted.

Fourth is the licensee who is on the premises in various capacities by and with the consent of the company.

As to this class which comprises the shippers and receivers of goods, persons who come to stations to see friends and relatives off on trains, and those who enter upon the company's property for other legitimate purposes, the utmost security against injury has been provided and the freedom from accident of such of our citizens permits me to pass over that part of the subject with this brief comment.

The fifth is the trespasser, i. e., those who are on the premises and trains of the company unlawfully. It is a misdemeanor throughout the land to enter upon the property of another against his will, and particularly so of the property of railroad companies, as in many states it has been set aside for special legislation forbidding trespassing, there being a greater danger to life and limb in its indulgence in such places of known peril.

The fact that many thousands of such persons, often the best citizens in the community are killed every year, seems not to excite or interest the citizens of this State sufficiently to procure the enactment of laws which will overcome the great evil.

But I hope that the incoming Legislature will give the citizens of the Commonwealth the relief so greatly desired by all the forces seeking good government.

This finishes with the divisions of my subject in their order, and I ask your further indulgence in permttting me now to return just a moment in closing, to the employe question.

For more than a century this country has taken in from all of Europe just what in men and women were not needed in their home industries and the development on this soil of those peoples has been a marvel to the whole world. There have been times when we by no means received the best and on occasions we have got the very worst of Europe's surplus population. But even so, the opportunities, educational and industrial; the freedom, political and religious; and the favor of climate have developed a pure race called Americans.

A few years ago I stood on a corner of a street in a large European city, with the nearest friend except the companion by my side, three thousand miles away, and very homesick. We were watching the great parade of carriages on a famous boulevard when intuitively my gaze was directed to a lady and gentleman afar off in a carriage quite like all the other equipages which crowded the thoroughfare, and instinctively I said, "There is an American couple." Later in the evening we spoke to these two in one of the theatres of the city and our hearts were gladdened at the opportunity for a brief intercourse with two people of the best on earth.

We have exceeded far beyond the most optimistic imagination in assimilating these polyglot peoples, but will that progress continue under the conditions which are developing from year to year, and with which we soon shall be confronted, if the crucial period has not already arrived?

When this great war in Europe broke out thousands of the best of foreign birth we had in this country returned to their native climes at the call to the colors and since then in the great industrial activity we have been experiencing, which, in large measure, is attributable to the European conflagration, we have been obliged to seek out in strange quarters men to perform the tasks of common labor; and as is perfectly apparent, with decided ill success, although the wage has almost doubled. And the entire country is crying for men to till the soil, wield the pick and shovel in the mines and on the highway, and perform the other work and service in the lower grades of industry.

Permit me just here to quote the first paragraph of the leading editorial in a recent issue of the New York Sun. It is entitled "Black Men Are Coming North to Labor," and runs as follows:

"Since the European war, by cutting off immigration to the United States and calling to their homes thousands of alien workers, created a shortage in the labor supply in industrial centers in this country, a constantly increasing movement of negroes from the Southern States has been in progress which promises to have important economic results. Already the exodus of workers has aroused fears in the South. Various communities selected by employment agencies for recruiting purposes have endeavored by municipal enactments to hamper the work of these bureaus, and campaigns intended to convince the negroes that they are better off in the land and at the tasks with which they are historically associated than they can be elsewhere have been undertaken."

If we get anything at all from Europe in the next five years, and even possibly during the next twenty-five years, it will be those persons whose active lives have been destroyed by the conditions of war.

I am not referring to the maimed, but to those whose very souls have been blasted by the curse of war.

Europe will not want these men, in fact can not afford to keep them, and we can not avoid them because they are able-bodied; and I have to insist that unless we shall make other provisions for the performance of our farm and industrial work at a fair wage we shall suffer from greater burdens than are now bearing so heavily upon us in the inflation of values. Two dollar wheat and twenty cent cotton is not an evidence of prosperity, but quite the contrary, and disaster will come to us unless we take means at hand to correct the situation.

The amalgamation of the races in this country has been very rapid and our leadership in the sciences has largely been due to the quick assimilation, but we shall not want to absorb into citizenship the peoples who will come to us in the next five years, and even of this generation, and we should provide against that overcharging of the melting pot with the mental and physical inferiors of Europe by an adjustment of our labor requirements through the taking in of sufficient capable men and women from other parts of the globe. I refer to the Chinese—efficient, prudent, honest and faithful servants; in every respect superior to what we now can get from Europe.

The importing of laboring men and women into the country elevates all other employes as the immigrant is taken in at the bottom and not half-way up, so that it must be perfectly clear to every mind that the coming in of the Chinese would substantially benefit all our citizens.

There are thousands of acres of untilled land in this State which would blossom with grain at the touch of the people of this provident race and two dollar wheat would soon be at an end.

We need not open our doors wide, but could take in each year a sufficient number to supply the industrial requirements. We do not create nor develop a labor class of our own but in all the history of the country have depended upon foreign lands to supply that need, beginning with the importation of the negro slave.

This latter part of my address is somewhat apart from my main subject, and I desire to have it understood that in it I have spoken solely from personal convictions, supported, however, by innumerable interests, corporate and individual, including many members of trade-unions, and not as a representative of any particular industry.

CHAIRMAN RILLING: If the able address we have just listened to is the result of Mr. Rose's effort when he did not have sufficient time to prepare an address I would await with much pleasure an address that would be prepared by him when he had some time to devote to it.

The next speaker of the afternoon, who will also speak on the subject of The Accident Problem of the Steam and Electric Railways, is Mr. Samuel B. Hare,

Claim Agent, Altoona & Logan Valley Street Railway Company, Altoona, Pa., whom I take great pleasure in introducing to you.

MR. HARE: Mr. Chairman, Ladies and Gentlemen of the Conference, I am somewhat sorry that the excellent papers read on this subject were interrupted at this particular time; especially as I believe the good effect of the thoroughly excellent remarks of Mr. Rose were not felt in anticipation of the argument, and if there he a publication of our proceedings I would respectfully ask that the paper of Mr. Rose be given particular attention.

THE ACCIDENT PROBLEM OF THE STEAM AND ELECTRIC RAILWAYS.

By SAMUEL B. HARE, ESQ., Claim Agent, Altoona & Logan Valley Street Railways Co., Altoona, Pa.

With the extraordinary growth of rapid transit facilities throughout the country, the increasing business demands for speed and the universal devotion to the God of Hurry, the most important problem with which the railway has to deal is the prevention of accidents.

The estimated annual loss of 35,000 persons killed, and 2,000,000 injured workmen and others in the United States; the fact that during the last ten years 95,864 persons were killed and 823,615 wounded on American railways; that 237,181 persons were killed and injured walking on railroad tracks in the past twenty-five years; that vehicular accidents alone have taken a toll of tens of thousands, all of this brings a realization of the absolute necessity of some abiding and permanent prevention.

Government experts have asserted that no less than 98 per cent of all personal injury accidents are preventable and but 2 per cent are due to defects in machinery and acts of God. Of this 98 per cent, 70 per cent are due to thoughtlessness; 15 per cent are due to bad habits; 10 per cent due to recklessness; and 5 per cent due to ignorance. Facing this appalling condition it would necessarily result that the only escape is in destroying the occasions for accidents by right thinking and acting, which can only be done by universal education along the line of physical conservation.

Experience has taught that no marked or lasting results are obtainable unless this educational movement is made general, embracing the various plans that have been proved practical for educating the employes and the general public, the installation of accident prevention machinery and devices, and the selection of fit men for service and their retention as permanent employes, to the end, that by thorough training and experience, they may become competent to safeguard their employer's interests.

No department head of a street railway system occupies a more important place in its affairs and upon no one does so much depend, of the most vital concern to its existence and successful operation as upon the official whose duty and task it is to select the raw material that goes to make up that very extensive element of its employes designated as trainmen. The official should exercise great care and select none, even for trial, except such as are physically sound, quick as to intelligence and sober as to habits.

The important problem of the selection and instruction of trainmen is emphasized by the realization that to the millions of people, who every year ride upon the cars, the conductor and the motorman constitute the system of the company. By their conduct the system is judged. If they are attentive to duty, clean and neat in personal attire, considerate, polite and accommodating to their passengers, the system is commended.

With proper selection, the instruction that is later given will prove more effective and be productive of better results than if the selection be an unwise one.

The importance of the selection of intelligent, physically fit and trustworthy men, is being more forcibly impressed upon those in charge of street railway affairs, with the result that greater care than ever before is now being exercised in the selection of trainmen.

The official must look into the future of his choice and have a vision of the man at work and in charge of company property and human life; he must be a judge of nature and determine the qualifications of the applicant to fit into the operating system; he knows that accidents are to be expected, and his selection should be only of such as would act as a reasonably prudent and careful man would act when confronted with the many trying and difficult problems known to trainmen.

Following the selection of proper men comes the very important duty and problem of instruction. It must necessarily follow that the official who selects should also be competent to instruct in every feature of the work. Besides the instruction from the standpoint of mechanical and operating efficiency, the official, or instructor, from the beginning, should endeavor to make the employe a safe man. It is a trite and true saying that "the best safety device known is a careful man."

The employe should be taught and made to understand that the men on the car are operating a large, powerful, and dangerous machine in the midst of thousands of persons and vehicles and that the safety of life and limb of those in his charge and those with whom he comes in contact, are every moment dependent upon his skill and fidelity to duty.

As a part of the first instruction given to an applicant should be the information that accidents are to be expected, yet where care has been shown to have been exercised by the employe no blame will attach to them unless they are culpably negligent. Should an accident occur from any cause, it should be reported honestly and fairly. Responsibility for the safety of the property in their charge, the safety of passengers, avoiding damage and injury to persons and vehicles, should be impressed upon the employes by instruction properly imparted, not because of fear of reprimand or dismissal, but because it is a reciprocal, humane duty and is an evidence of absolute loyalty to the employer, and furthermore, it is in force and effect, the proper exemplification of the Divine principle given to man and taught by the Golden Rule.

After seeing that platform men are as fit as possible as to selection and instruction, there is nothing more important than the installation of approved accident prevention devices, and constructing cars, builders, and machinery, with the idea of safety in mind. We have come to realize that we must try to guard the public against its own negligence. No amount of preaching will entirely eliminate accidents, and it is, therefore, up to us to make our cars, buildings and machinery, as nearly fool-proof as is possible.

Men are better workmen, when, because of safeguards, they can move with confidence about their machines. It is a known fact that the cost of work is much less than the cost of accidents. This applies not only to men on the road, but also in the shops. An example of machinery guards can be seen in the photographs and descriptions submitted by the General Manager of the Altoona and Logan Valley Electric Railway Company to this association and made part of the annual report.

It may reasonably be presumed that railway companies have done that which is necessary to prevent accidents. Their constant change from old to new appliances and equipment; the introduction of every practical safety device; the most careful supervision of track conditions; the rigid preliminary examinations and patient early training of car operators; the rigorous discipline that punishes any infractions; the constant warnings by signs and numerous methods of advertisements; all at an enormous cost and expense, are indubitable evidences of the good faith of the railway companies towards the conservation of the safety of the public.

The education of the public in the prevention of accidents, is a great railway problem, presenting a field in which there is great opportunity for new and original ideas to be developed. The first obstacle that presents itself is that the public, in many instances, will not accept instruction from railway officials and, in some cases, refuses co-operation. That there is a strong prejudice existing against

corporations, and, especially street railway companies, can not be questioned. Many persons feel that the corporation has grown wealthy improperly at the expense of the people; while again the corporations are greatly misrepresented by persons who seem to think it to their interest to make such misrepresentation by abusing and accusing them of all manner of offenses. Furthermore, a great degree of the feeling against the corporations has been created by the treatment of the public by street railway companies.

First, this feeling of prejudice must be destroyed, and secondly, a friendly feeling must be encouraged and kept alive before the public will be in a receptive mood for education.

Promptness and fairness in adjusting grievances of the public will command respect. When it is understood in the community that the corporation is managed as a man would manage his own private business; that it has a set of principles founded upon fairness and justice, a method followed by the honest man in the honest transaction of his private business; that this system requires meritorious cases be settled and that only nonmeritorious cases burden the calendars of our courts; that the policy of the company is to be just and fair to all alike; then it will win for the individual members of the corporation the approbation and approval of all fair-minded people, and their hearty co-operation in the matter of education in accident prevention, will be gladly given.

The better means of educating the greater number is through the medium of the public schools. The State of New Jersey has passed a law making the study of accident prevention part of the curriculum in the schools. The co-operation of school authorities with safety lectures has been a great means of education, not only to the children, but to the parents and others. Evening sessions in assembly halls of various schools and churches have brought large audiences of persons of all ages to see the stereopticon views and motion pictures used to illustrate the lecture. Many others have been reached through arrangements with large department stores for daily illustrated lectures in the stores. Very effective work can be done through concerns that have many teams and autos on the streets. Signs in cars, advertisements and illustrations in newspapers and on sign boards, warnings, cautions, buttons, flags, all contribute in some degree to the education of the public in the prevention of accidents.

Every street railway company should have a Safety man, whose business should be to think, act and talk safety and endeavor to inculcate in the minds and hearts of all persons, employes and nonemployes, high and low, young and old, the personal value of accident

prevention; all should be taught to avoid contact with those great, strong, powerful Giants:

S—street and steam cars.
A—automobiles.
F—fire.
E—electricity.
T—teams—think.
Y—you.

Think and spell with the first letter of each Giant's name and the horrible carnage of life and limb will be stopped.

The elimination of thoughtlessness, carelessness, bad habits, and ignorance can only be accomplished by education and instruction.

In this connection great credit must be given to the street railway companies for the installation and adoption of pay as you enter cars, prepayment cars, one-man cars, near side stops, better road bed and track conditions, for each has contributed materially to the reduction of boarding and alighting accidents and vehicular collisions so frequent before their introduction.

An example of the decrease of accidents due to the use of the prepayment cars, is herewith given from the records of the Altoona and Logan Valley Electric Railway Company: In 1910, prior to the installation of the pay as you enter car, platform accidents happened at the rate of one to every 137,150 passengers carried. With the average daily number of cars increased, together with the increased number of passengers carried, the percentage of platform accidents has decreased so that in 1915, it was one accident to 444,088 passengers carried.

Many delicate and intricate problems confront a street railway company, especially the Claim Agent, in the consideration and handling of accidents. No two accidents are identical. No two claimants are alike. Investigation of facts, as to how accidents happened, is of great concern. Parties in interest, the injured and platform men, can not always be relied upon to give accurate descriptions; unwilling witnesses refuse to give their names; prejudiced persons gladly offer advice founded upon a biased opinion; viewed from different angles, the statements of witnesses ofttimes are conflicting. From a mass of nothing conclusive or corroborative, the official must determine liability and be guided thereby.

Feigned injuries and resulting illness, misrepresentations of time lost and money expended; the value of garments and vehicles damaged; the market value of animals injured or killed; the endeavor to convert an accident or misfortune into a money speculation, are elements in adjustment of accidents most troublesome.

To give a full, complete and concise account of every character of accident and discuss each detail pertaining thereto, would require a volume too lengthy for present purposes, yet all are important and must be given careful attention. Passing reference is therefore made to employes' reports; search for witnesses; witness' reports; physicians' reports; official detail; index bureau; investigation; visits to injured; examination of witnesses; discussion of liability; satisfactory adjustment; release; preparation for trial; expert testimony; court duty; appeal; settlement.

One class of accidents demands particular discussion. Never in history has the development of transportation so nearly approached the phenomenal as within the last decade. The automobile and motor vehicle are literally rushing through life, and this character of accidents is the greatest concern and problem of street railway com panies. We are rapidly approaching a condition which may mean a greatly increased cost of lives and property and a very material increase in claim department expense. An indication of the progress which has developed in the motor vehicle industry can be seen in the 2,297,843 registrations for the year 1915. The percentage of increase in the years 1905-1910 was 340 per cent and 1910-1915 was 471 per cent. Notwithstanding the introduction of every possible safety device by the railway companies, the organization of Welfare and Safety committees among employes and others, and every known method of accident prevention, motor vehicle accidents have increased 30 per cent in the years 1911 to 1915. No problem of recent years has been so much discussed or presents a more complex situation.

Transportation companies, realizing their responsibilities, have done everything possible to protect the public from harm, yet, notwithstanding these efforts to conserve the public safety, there is a tendency on the part of the public to demand protection without making an effort to protect itself; as a consequence, our trouble is from without, not within. We must seek measures to protect ourselves from the expenditure of large sums of money in damage by throwing around others a safeguard which they are unwilling to provide for themselves or which they carelessly and negligently refuse to exercise. The time has come when we must prohibit the automobile and motor vehicle driver from using his own judgment, or misjudgment as is frequently the case, and surround him with restraining regulations for the protection of himself and others.

Against the preparation, care, attention, education and experience, physical fitness and mechanical knowledge required by a street railway company before a man is given control of a car; what is required from the applicant as a driver of a motor vehicle? He need only

fill out a printed blank form, giving name and address, make of car, its horsepower, inclosing license fee proportionate to power, and the State grants a license with authority to operate a motor vehicle of high power, not along defined tracks, but over and along every high way, making no inquiry whether the applicant is mentally, morally, physically or mechanically prepared to assume the responsibilities implied in the grant of every such license.

The conclusion is certain that a great number of motor vehicle accidents must be attributed to stupid, inadequate and worthless laws now operative or omitted in relation to the granting of license to the operators of motor vehicles, and the foremost step towards prevention of this class of accidents should be in the revision of the present inferior and useless laws.

Compulsory legislation by the enactment of uniform state and municipal laws for the restriction of the operation of automobiles to those not mentally and physically equipped for this responsibility, is one solution for the prevention of a great number of motor vehicle accidents.

Of what use to an automobile driver is a sign if he can not see? What effect has a horn or gong upon a deaf driver? What escape has a careful person against an epileptic? What refuge has a person from the wild wanderings of a drunken, careless or negligent driver? What does the joy rider care for the man he meets? Of what use is a brake to a one-armed or one-legged man? Should a high powered machine be permitted in the control of a young boy or girl or an old man or woman? Should a dwarf thirty-four inches in height be allowed to operate an automobile? Should a person adjudged of unsound mind by a competent authority be given power by the State to operate a machine? Should a driver who had already killed two persons carelessly be allowed to retain his license? Should an unnaturalized person be granted a license? Should any license be issued without the assurance of physical fitness, moral responsibility and mechanical qualifications?

Not one of the above persons enumerated could ever hope to obtain employment as an operator of street or steam cars, yet each can procure a license to run an automobile of even greater horsepower and speed than any street car, on every highway within the Commonwealth.

The primal move toward the prevention of this character of accidents would be the enactment of uniform state laws, a section of which should be devoted to the regulation of the speed, fixing speed limits, establishing rights of way and providing for the turning at the approach of or in passing another car or vehicle. The dominant measure of such a statute should be a standard test of the physical

fitness, mechanical knowledge and the moral character of the individual, with the positive requirement of a practical demonstration. The owner should be required to file an approved bond for himself and driver, conditioned upon proper indemnity to persons killed or injured or property damaged. Transfer of ownership and light regulations should be controlled by the State Department. Penalties for violations should include the arrest or impounding of the motor vehicles, authorizing their sale for costs, fines and damages.

Rigid ordinances should be enacted by municipalities for the operation of motor vehicles; and traffic squads, and police officers should relentlessly enforce such requirements. Such ordinances should designate the line of travel, speed of cars, manner of passing standing and moving street cars or other vehicles, method of crossing at intersecting streets, establishment of safety zones, placing of signals at grade crossings, regulation of conduct of driver in vicinity of schools, playgrounds and churches.

After the enactment of state and municipal laws, it would be the duty of automobile associations, motor clubs, safety committees, civic associations, committees of one hundred, welfare committees, and all interested individuals to exercise a general supervision in relation to the strict and inexorable enforcement of the laws by state and municipal authorities. An immense amount of suffering would be avoided and many lives saved were there a legal restriction of pedestrians to the proper use of streets, yet it is quite apparent that simple but well defined laws are all which we could expect to enforce with regard to control of pedestrians. Our energies should be spent in the education of the public in safe practices and the matter of caution in the use of the streets.

Not the least matter of importance is the absolute prohibition of streets as playgrounds for children and others. Just how stringent the required legislation should be depends upon the local conditions. While we are giving consideration to such legal restrictions as seem necessary, we should not forget our opportunity along educational lines and no better field can be found than in the public school. As our traffic problems of the future must be solved by these same boys and girls, our efforts in teaching them the principles of care and caution will serve effectively to build up a sentiment for the future conservation of mankind.

Accident prevention should be the aim of all. The A, B, C, of every life should be ALWAYS BE CAREFUL. Safety first and safety always should be the watchword of all. "I am my brother's keeper" should be a universal acknowledgment. The motto adopted by the National Safety Council is worthy of emulation:

"And the end is that the workman shall live to enjoy the fruits of his labor; that his mother shall have the comfort of his arm in her

age; that his wife shall not be untimely a widow; that his children shall have a father; and that cripples and helpless wrecks, who were once strong men, shall not longer be a by-product of industry."

CHAIRMAN RILLING: The next speaker for this afternoon, who will address you on the same subject is P. J. McGrath, Financial Secretary-Treasurer, Division No. 85, Amalgamated Association of Street and Electric Railways Employes of America, Labor Temple, Pittsburgh, Pa.

MR. McGRATH: Mr. Chairman, the subject allotted me is one that the average workman has but very little opportunity of familiarizing or acquainting himself with. I will say that in the outset so I request that you will bear with me but a short time and I will endeavor to set before you the position and condition under which the street and electric railway employe works.

THE ACCIDENT PROBLEM OF THE STEAM AND ELECTRIC RAILWAYS.

By P. J. McGRATH, Finaucial Secretary-Treasurer, Division No. 85, Amalgamated Association of Street and Electric Railway Employes of America, Labor Temple, Pittsburgh, Pa.

The subject is one of enormous importance, and particularly so from the standpoint of the employe. The subject is The Accident Problem of Electric Railways.

This subject is of more vital interest to the employe than to the employer, and is a question of vast importance to the public, but perhaps to the public of no lesser importance than to the employe.

First, the employe is the victim of many accidents. His own safety is involved in the matter of life and limb.

Second, upon him is imposed all moral responsibility. This the employing corporation escapes, and of course as "everybody's business is nobody's business" the general public also escapes the moral responsibility. Of course we would not relieve the public, that is, the employes will not relieve the public from responsibility, but the force of the placing of responsibility points most directly to the employe. Besides the sense of it, and the sense of being involved in accidents, is no light burden to the employe, and no replenishment of the nerve strain of the employment.

Third, the employe is interested as the ordinary citizen. As one of the units of society he has his equal responsibility for the elements that enter the liability to accident and the results from accidents.

A question that has engaged the thought of the employe, is not to what measure he may shirk his responsibility, but the limited opportunity he has to effect conditions to avoid accidents, and it may be said most truthfully, that his opportunity is most seriously restricted by the employing managements or corporations, who assume only a financial responsibility, and who are seldom charged with more than a financial responsibility.

In this particular business—street and electric railway business—there is a most acute secrecy observed by those who are in the business for profit, and we have yet to find any who are in it for pleasure or charity. This dark secrecy comes, perhaps, from the methods that have shrouded the street and electric railway business in a financial way in its development, exploitation, and in fact the attaining and financing of it.

To a bloodless corporation the concern in an accident involves only the matter of profit. The man in his office in New York, would take little cognizance of an accident happening upon his street railway lines in Pittsburgh, in the event that he felt secure that such accident would in no way involve the possibility of profit. He would never hear of Peter Smith, a motorman, being crushed between two cars for want of sand in a sand-box, or from impaired brakes, and if he did, it would be a matter of only passing interest. The same would apply to the accidental death of a passenger or pedestrian, let it be man, woman or child. I wish to emphasize this as it is thought of generally by the public. That man would have no more concern in the accident upon his property in Pittsburgh, than any other citizen in New York that had no relation whatever to the property or accident. His concern would be far less than that of the man, or women, or child living in Pittsburgh, who should witness the accident and become seriously shocked thereby.

But the employe is ever present with his continuity of responsibility. His responsibility never ceases. He witnesses the accident. He sustains the shock—the double shock that comes with the sense of being involved in the accident personally; and if criminality can be attached, he is the man who is arrested, prosecuted and penalized, and not the New York owner or the Pittsburgh manager, who is quietly scheming financially, comfortably ensconsed in an elaborately furnished office.

In the matter of statistics, as I have stated, the public is blinded by secrecy. In the United States Census Report upon street and electric railways, issued in 1902, it was shown that upon street and electric railways, 265 passengers, 122 employes and 831 other persons were killed in accidents. The number of car miles per person killed,

was 939,598. The census report issued in 1907, showed 547 passengers killed, 297 employes killed, and 1,567 other persons killed. The number of car miles per person killed, was 670,979. This statement will be found on page 89 in Special Reports of the Bureau of the Census—Street and Electric Railways 1907, issued by the United States Census Bureau. For the first year, 1902, is indicated that the figures are exclusive of four companies, which failed to furnish information concerning accidents. This information was furnished by the companies. There is no record of accidents pertaining to the number of persons injured or maimed in any degree.

The later bulletin of 1912 gives nothing upon accidents, but assuming a proportionate increase in accidents, as may be observed by the figures given, and considering the increasing congestion of the industrial centers in which these properties operate, it can be clearly understood that accidents are even greater in number than then, besides the rolling stock has increased in size and weight, and has become more difficult to operate and control. Schedules have been speeded up.

The Amalgamated Association of Street and Electric Railway Employes of America, of which I have the honor of being a member, and an officer of one of its local divisions, pays a death and disability benefit to members after attaining one year in membership.

The official records of the Amalgamated Association, show that the Association paid in death and disability benefits, resultant from accidents, in the year 1915, $21,950, and in the year 1914, $20,950. Occupational accidents—accidents to motormen and conductors—for those two years, cost the Association $42,900. Forty-two deaths resultant from accidents in the occupation, occurred in 1916 among the members of the Amalgamated Association. There were 18 members totally disabled from ever again earning a living by working; and total disability accidents to first year service men are incompletely reported to the Association. No accidents whatever, are reported to our association of which any record is kept, except those upon which total disability benefits are paid. The membership of the Association is approximately 52 per cent of the motormen and conductors employed in the street and electric railway service. Thirty-eight per cent of this 52 per cent are undergoing their first year in membership, making the Association figures, relative to accidents, that I have given you, to apply to approximately less than 32 per cent of the entire army of motormen and conductors employed in the service, and affording quite a fair estimate that over 200 motormen and conductors are annually unfitted for work, by accidents in the service, either from death or total disability, besides the multitude who are more or less seriously injured, and in one way or another maimed for life. I give these figures as an impression of the

intense interest the responsibility of employment imposes upon the employe.

I have no record of arrests, prosecutions and persecutions that have been undergone by the employes, resultant from accidents. Thus we see that the question of accidents is one of serious moment to the employe.

Employing companies—their managements—through the interest in accidents that financial responsibility brings to them, are an element of the Safety First propagandists, and effect methods from which they no doubt sincerely hope for a reduction of expenses. It is a business proposition, and there can be no questioning of the sincerity of purpose.

Safety First is painted in every conspicuous, convenient way or spot about the property of these corporations, even to the end that buttons are placed upon employes bearing the inscription "Safety First." In the cars, on telegraph poles, on substations, etc., we are confronted with "Safety First," until it has become so common, that I fear that it receives very little moment or thought from the public. The Safety First propaganda is expensive, but not so expensive as accidents. Besides, it is supposed, in a certain degree, to allay the feverish distrust of the public by inferring that the employing corporations are interested, and anxious to avoid accidents. That is worth something.

Safety in employment, seems to depend nearly exclusively upon the contentment in and devotion to employment by the employe. When these elements are exercised to the fullest of the mental and physical possibilities of the employe, there can nothing stand between him and safety, at least to the end of his responsibility. This true, it appears important to determine what contributes to contentment and devotion in employment—what makes for peace of mind with the employe?

First, the employe works for wages. If the employe is satisfied that he is being well paid, for the energy and intelligence that he is applying to the job, he is getting as much as he would get in the application of that energy and intelligence in another occupation possible to him, he then has the full measure of contentment from that source. He will want more. No one ever gets enough. But from that source he is contented, in that he is getting all that can possibly come to him until, through his own effort, he can make the expenditure of his intelligence and energy result in more. A peculiarity about this is that it requires co-operation with other employes to get more.

Again, the employe is a unit in the employment. There are others. The contentment of the employe depends much upon the content-

ment of his coworker—upon the unity within the occupation. Security in employment rests in the conduct in employment of other employes.

Contentment is in no small degree a factor in the measure of unity. Here is where superintendency or management in employment enters as a quality in Safety.

An employment wherein favoritism is indulged can not bear contentment. A policy of "each man for himself" leads to confusion and a gamble at the expense of Safety. Here we hear the appeal for organization.

In the street and electric railway service there must be a bond of sympathy, a congenial brotherhood spirit, with an objective. Such a condition, if you will pardon me, can not come from nonunionism.

In nonunionism the job is only an expediency under the lash of the master. It bids for no devotion to employment. It promotes selfishness in which the employe rather glories in a bad record of his fellow employe, that his own may pass above the average and that there may exist an excuse for his own shortsightedness. The employe has no standard to elevate. The job, to him, is burdened with indignity. Safety makes no appeal to him beyond his own personal safety. His mental energy is more taken up in dodging the missiles of discontent. His only hope lies in the possibility of another job.

A safety movement that encourages one employe to build a record for himself at the expense of his coworkers by reporting their shortcomings, where they are entered against their record, can result in anything but safety. It breeds suspicion of bad motive. Such a movement tends to no general interest in the job. The incentive is a "stand in" with the "boss" regardless of the consequences to the other fellow or the service. No employe can serve Safety and act on a safety committee that gathers charges for the boss against his fellow workmen, and such committees must do that very thing in order to hold the "stand in." There is no unity of good effect in such a movement, no matter how good the purpose may be. It is contrary to the spirit of brotherhood. Such movements are not above the suspicion that they are instituted for a reason.

To my mind, accidents upon the street and electric service can be best reduced by advancing the standard of employment. In that lies safety to the public and a lessening of accident expenses to the employing corporation, and it would ease the burden of responsibility with the employe.

Collective contracting is an essential by which employes can approach the employing corporation upon a plane of equality, where the employes would have the advantage of choosing their business managers, their directors, to look after their interests with a friendly

intent, and on a par with the directors and managers of the corporation as respects safety in employment. This would add to the sense of responsibility with the employe, and he could have less excuse for not being equal to the responsibility.

Employes, through their directors and managers, the officers of their organization, should have a right to pass upon newly acquired employes in respect to their efficiency, and the measure of their capability to realize the responsibility of the job.

Men should not be overlooked. The public could provide safety along this line by restricting the hours and continuity of service days in employment, by law. I believe it would be a good police regulation wholly within public policy.

This in one of but a few, if not the only employment, in which the continuity of service is not broken by a rest day, in accordance with the divine injunction "Six days shalt thou work and on the seventh thou shalt rest."

A law prohibiting employment to exceed six days in any seven continuous days, would be meritorious, and to the end of protecting the public and the employe against accidents. Again this is, perhaps, the only employment in which the service day is not limited. There is just as much reason for an eight hour service day for street and electric railway employes, as for steam railroad men, and the safety of the public appeals for such legislation. To say that the service can't endure such an arrangement, is to attempt to dispute the existence of just such an arrangement in San Francisco, where there is in operation one of the three or four municipally owned and operated street railway systems in the United States.

As I say, there should be co-ordination—co-operation between the management and the company—in employment in taking on new men. Both should be held responsible, and each should have an equal right to exclude objectionables. All of this would tend to the perfection of the service, and to render it safe and with the least number of accidents possible, of a nature preventive by human agency.

Yes, sir. I believe in the elimination of accidents from any occupation. So does everybody else. It is human.

Naturally, too, I believe in the trade-union movement. Its prime principle is safety. Every man in the trade-union movement is a safety spirit. It is the safety movement. It is a movement in which every true member has a concern in the interest and safety of the other fellow. It is the true mutual, and at all times safety movement. Neither does it bar the co-operation of the employer but appeals for it.

Just one point struck me when the gentleman who preceded me and made such a brilliant address on the subject, was speaking of

men operating automobiles, being crippled in one way or another, being young boys, old men, and so forth. That reminded me that at particular times of strikes in street car organizations that they never hesitated, they never have, to do practically the same thing that he is calling attention to. It has been brought home to us on so many occasions, when they have had young boys not of age, men of experience, and have gone so far as to have men who could not do anything else but run a street car, something at which they could sit down and operate a power brake. So that, speaking of them working on automobiles, if they would only practice as they preach in times of strikes, and have, as they always pretend, the best kind of men to do their work in times of strikes as they do at all other times, I think it would be better for everybody.

I thank you, gentlemen.

COMMISSIONER JACKSON: I should like to state that on account of the late start this morning, we have been very much overcrowded to-day.

Mr. Marcus A. Dow, who has come from a long distance is one of the most brilliant speakers, I believe, in the United States. He is a man who has done a wonderful work in this world; he is a man who is unusually filled with his subject, probably we shall not have a finer treat than Mr. Dow will give us.

As we are now ready for supper we are going to postpone Mr. Furman's address and the discussion of compensation to a little later on in our meeting. We are going to adjourn Mr. Dow until the first thing this evening. This evening's program will then consist of Mr. Dow's address, which is one of the treats I am looking forward to, then we will have the great employment problem presented and then the motion pictures. The motion pictures will be given from seven to seven-thirty and it is desirable that all be here promptly.

Whereupon on motion duly made, the Conference adjourned at 5:10 p. m. until 7:30 p. m.

TUESDAY, NOVEMBER 21st, 1916.

EVENING SESSION—7:30 O'CLOCK.

Chairman, WILLIAM YOUNG, Member of Industrial Board, Representing Labor.

CHAIRMAN YOUNG: Considerable evidence was disclosed in the discussion this afternoon on The Evils of Railroad Trespassing. We have with us this evening a gentleman who, in my opinion, is more fully informed on The Evils of Railroad Trespassing than any other man in this country. He is a gentleman who has made a special study of this subject and is therefore in good position to tell you what in his opinion should be done and has been done in a great many places. In addition to what he has done in various directions he has also written "The House that Jack Built," a two reel motion picture, which will be shown at the close of his remarks.

It therefore gives me great pleasure to introduce to you Mr. Marcus A. Dow, General Safety Agent, New York Central Lines, New York City.

THE EVILS OF RAILROAD TRESPASSING.

By MARCUS A. DOW, General Safety Agent New York Central Lines.

Ladies and gentlemen, I have been honored with an invitation to speak to you on The Evils of Railroad Trespassing. After all that was said on that subject this afternoon there really is very little more that I can say; in fact, so much has been said upon this subject in the past few years that one might almost wonder if the subject were not threadbare, except for the fact that the problem of saving a veritable army of American citizens from needless slaughter, due to trespassing upon the tracks of American railways each year, remains unsolved, and no problem which has to do with the conservation of human life can ever become worn out or threadbare.

In the first place, I would say that this problem is not merely a local one and does not apply in the State of Pennsylvania any more than it does in any other state of the Union. As a problem it is a National one and the neglect to take adequate steps to curb this evil

may very properly be termed the Nations neglect; and yet it is a problem so vital to the interests of humanity in each state that the states should severally be prompt in recognizing their individual responsibility and each one take such steps as will best conserve the interests of humanity within its borders.

Let us first consider the scope of this problem and what the term "railroad trespass evil" really means. Few people realize that more than fifty per cent of the fatal accidents occurring upon railroads in this country each year are to trespassers who voluntarily and needlessly risk their lives by going on railroad tracks where they have no right to be, thereby contributing to a sacrifice of life and limb that is a disgrace to our boasted civilization. Reports of the Interstate Commerce Commission show that the number of persons who are killed in this manner in this country is well above an average of five thousand a year, and an equal number are seriously injured, crippled or maimed each year. In the State of Pennsylvania, according to a record compiled by the railroads for the year 1914, I find that there were 632 trespassers killed on railways, 17 who lost two limbs, ninety-six who lost one limb and six hundred and one who were otherwise seriously injured from this cause in this State alone in that year. According to the records of the Interstate Commerce Commission covering a period during the past twenty years, in the entire country, there were ninety thousand human beings killed and more than one hundred thousand injured while trespassing upon railroads. If that ninety thousand killed by their own folly had been buried in a gigantic trench, side by side just as close as they could be laid, that trench would now be more than thirty-six miles long and at the present rate at which fatal injuries occur to trespassers on the railroads in this country, it would have to be lengthened two miles each year to accommodate the remains of the poor unfortunates who continue with unceasing regularity thus to fall victims of their own recklessness. Just think of it, fourteen human beings killed on an average every day in the year in this country while walking the tracks or trespassing upon railroad property, and an equal number seriously injured. That is equal to approximately one hundred persons killed every week. Why, if there should be one hundred passengers killed in train accidents on the railroads of this country each week it would become a topic of national concern and the public would be up in arms to put a stop to it. And yet the nation goes placidly along, enforcing health laws without number, conserving its forests, spending millions to irrigate land, developing antitoxins to prevent death by disease and striving in a thousand ways to lead the world in progressiveness and the uplifting of humanity, and hardly a passing thought is given to this killing and maiming of nearly ten thousand

human beings each year. Every year there are countless citizens whose value to the community, to the State, to the nation and to their families, as producing elements and wage earners, has been forever impaired, if not lost entirely through death resulting from injury. Every year there are countless children whose lives are sacrificed on the altar of public indifference. Is it not time that the public woke up and put a stop to this merciless, needless and wholly inexcusable slaughter?

Industry has been foremost in safety educational work. As for the railroads, they have ever stood firmly upon the principle of safety as the first consideration. Improvements have been made in construction. equipment, and the efficiency of their personnel on the basis of safety before cost. The officials of railroads were among the first to realize that in order to improve their accident records the great body of their employes, men from the rank and file, must be educated and their interest aroused to a point where their wholehearted co-operation and support would be enlisted in stamping out the known practices which cause injury; and to that end the old established policy of American railroads to utilize every reasonable and practical mechanical safeguard and method of operation has in recent years been augmented by a systematic plan to increase the efficiency and carefulness of their employes through a broad plan of education and enlightenment. But what has the public done towards decreasing those classes of accidents over which the railroads have little control and in which the public itself is vitally interested, such as these trespass accidents? Absolutely nothing, in spite of the fact that careful investigations have shown that the great majority of those persons killed and injured while trespassing upon railroads are not tramps or hoboes but citizens of the wage earning class living in the vicinity where the accidents occur, many of them even being women and children. It may not have impressed you heretofore, but there are countless little children whose lives have been sacrificed or who have lost their limbs while trespassing upon the railroads. They have not been taught to avoid dangers; not only upon railroad tracks but in the city streets and countless other places; and so they follow the examples of their fathers and their older brothers and in every city you can see them, little tots six years and under, up to boys in their teens, gathering about the railroad yards, playing upon turntables, running across the tracks with reckless abandon, hopping on and off cars until suddenly one of them falls under the wheels of a moving car and is taken home a useless, helpless cripple. Sometimes these little victims die; but sometimes they live and grow up, poor, unfortunate wrecks of human beings, who have been racked by pain and are soured by the bitterness of their lot, and all because

as chidren they had not been taught or not been compelled by their negligent parents or perhaps, to get to the root of the matter, by a negligent public, to avoid taking-the chance of such an injury.

The burden of preventing this particular class of accidents rests most heavily upon the shoulders of the public itself. Experience has proved that the railroads are powerless to accomplish any tangible results in the way of preventing these accidents without the co-operation of the public and public officials. The officials of railroads are sincere in their desire to reduce and prevent accidents occurring in every phase of railroad operation. That they have been successful is manifest in the results that have been obtained in reducing the casualties in those classes of accidents where they can exercise some control.

This so-called safety movement was generally adopted upon the railroads of this country in the form of a co-operative and educationl movement about five years ago and since that time the average number of employes killed while on duty on all the railroads of the United States has decreased each year twenty-eight per cent in spite of the fact that there has been an increase in the number of men employed. Why, passengers on the trains of American railways are practically immune from death and serious injury due to the safety and efficiency of railroad operation. According to the last report of the Interstate Commerce Commission only eighty-nine passengers were killed in train accidents on all the railroads of the country in spite of the fact that the number of passengers carried equaled ten times the country's population. During that same period there were steam railroads of three hundred and fifteen operating companies with a mileage of one hundred thirteen thousand three hundred miles, which, if stretched out into one long railroad would form a steel girdle extending nearly five times around the world, on which not a single passenger was killed in a train accident. During that same period there was but one railroad employe killed in a train accident out of each one hundred loaded freight cars transported a distance equal to seventeen and one-half times around the world.

Now then, is not the man carrying his dinner pail on his arm, who thoughtlessly or recklessly uses the railroad tracks as a public thoroughfare, just as dear to his family, and of just as great a value to the community as though he were a passenger or employe of a railroad company? Then why does not the public take sufficient interest in these accidents, over which the railroads have little control, and by a concerted effort strive for their elimination? Has the public performed its full duty? Is it reasonable that there should be three times as many trespassers killed on railroads as there are railroad employes killed? Is it excusable that there should be fifty times as

many trespassers killed each year on railroads as there are passengers killed? There are questions which the public must answer.

Laws have been made intended to deal with every real or imaginary cause of action. Oftentimes these laws have imposed a serious burden upon the railroads to execute them, and yet laws which have been introduced in a number of states to prohibit trespassing upon railroads, and thereby put a stop to this slaughter of its valued citizens each year, and which laws would not cost the state or the nation nor even the railroads a penny, have been persistently pigeonholed without being passed for fear that they might take away from the public some of that inalienable right to do as it pleases, even to the extent of committing suicide by trespassing upon the tracks of a railroad corporation. I do not claim that a law which would prohibit trespassing would in itself alone prevent trespass and trespass accidents. Any such law to be effective must have the approval of public sentiment back of it; therefore the first important step is to conduct a campaign of public education. This the railroads, so far without outside assistance, have been attempting to do; but such a campaign of education would carry greater weight and would be more effective if carried on by some properly constituted state or federal officer.

Literature should be distributed widely and repeatedly, calling attention to the far-reaching and unhappy consequences of this particular form of carelessness, and such literature should bear the stamp of approval of some proper public officer. Not long ago we started a campaign of that kind in New York State where there is a law which makes trespassing upon railroads a misdemeanor and punishable by a fine or jail sentence. We employed a man to go up and down the railroad and devote his entire time to studying this problem and to educating the public. He called upon the judges of courts and acquainted them with the vast sacrifice of human life due to this practice. We printed small pay envelope inserts which called attention to the law of the State and the number of persons whose lives were sacrificed by following that practice and we distributed hundreds of thousands of them to the heads of manufacturing establishments along the road for insertion in the pay envelopes of their employes. We printed a small card which reads as follows:

"Friends, you have picked out a dangerous place to walk. Do you know that over five thousand people are killed every year while doing just what you are doing now, using the railroad track for a highway? They didn't expect to get caught that way either. A word to the wise is sufficient. Think it over. (Signed) A Well Wisher."

We have distributed several hundred thousand of these cards through our own employes, members of our safety committees, crossing flagmen and special committees appointed to distribute them,

handing them out to persons who were seen trespassing upon the tracks walking to and from their work in the manufacturing district. As a result of this special campaign of publicity, followed up by a campaign of arrests and prosecutions of those who paid no attention to the warning, we were able within a few months time to show a decrease of nineteen per cent in death cases and seventeen per cent in injury cases to trespassers on the New York Central Road, although previous to that time there had been an increase each year. It is a peculiar thing that to many persons the fear of arrest seems to be greater than the fear of injury and the gates of a penitentiary seem to be more awe inspiring than the doors of a hospital or morgue. As this is a nation wide problem the restraining hand of our Congress at Washington should be raised and a Federal law passed which would prohibit the trespassing upon tracks of interstate roads; but a great step would be taken towards bringing about the desired end if such a law were passed in the State of Pennsylvania and in every other state of the Union. Such a law, augmented by a widespread, persistent and systematic campaign of public education to teach all persons that the law was framed for their own protection and to save human life and not for the mere purpose of guarding the railroad tracks against unlawful intrusion, would in time solve the problem. Some people seem to think that just because the railroads are recommending this sort of legislation that they are assuming a domineering and contemptible attitude, but why should this be so? A man does not damage the railroad ties by walking on them; trespass cases don't cost the railroad companies any great sums of money because there is no legal redress to the trespasser who is killed or injured unless wilfully. Is it not possible then for the public to give the railroads the benefit of the doubt and say that perhaps after all it is a commendable desire on the part of the railroad officials to prevent, if possible, a needless slaughter for which they themselves are not responsible?

We have been taught through science that cholera, smallpox and other forms of epidemics are preventable. To run away from any of these epidemics or ignore them would be cowardly and a mark of base incompetence. Are we to sit idly, we Americans, and allow this epidemic of death and injury to railroad trespassers to continue to go on and not assert our will in trying to prevent it? Are we to display ourselves to the world as incompetent to deal with a situation so grave and yet apparently so simple of solution? Can we go on enacting laws which cast safeguards about birds and fish and game, and can we go on conserving our forests, spending millions to irrigate land, developing the means of preventing death by disease, all for the sake of humanity, and yet remain blind to this great sacrifice of life which can be prevented? Let us continue being progressive and

human but let us travel in a straight line and not circle around our railroad trespass problem, which is, after all, not such a difficult problem, but needs only our state and national attention. The cause of this fearful life sacrifice, which amounts almost to a national calamity is recklessness and individual carelessness. The remedy is continuous and systematic public education and prohibitive legislation.

I thank you.

COMMISSIONER JACKSON: I move you a vote of thanks be extended to Mr. Dow, who came here and remained under very difficult circumstances, and at very great loss and inconvenience to himself, for the magnificent address he has just given us.

The motion was duly seconded, put, and unanimously carried.

("The House that Jack Built," courtesy of Marcus A. Dow, General Safety Agent, New York Central Lines, a two reel motion picture was then shown.)

COMMISSIONER JACKSON: Mr. Dow, I think that we are all doubly grateful to you, not only for the address but for the pictures that have been portrayed upon the screen. The pictures speak for themselves and should be an object lesson for all of us no matter in what walk of life we may be.

CHAIRMAN YOUNG: The next speaker this evening is a representative of one of the largest industrial concerns of its kind in this country, a concern which has a national reputation for uniqueness and originality. You have, perhaps, through the daily press been informed what this concern has done but from what I have learned lately you have only heard of a very little portion of the work that has been done by that company.

It therefore gives me great pleasure to introduce to you The Rev. Samuel S. Marquis, Department of Education, Ford Motor Company, Detroit, Michigan, who will speak to you on the subject of Reducing the Labor Turnover.

REDUCING THE LABOR TURNOVER.

By The REV. SAMUEL S. MARQUIS, Department of Education, Ford Motor Company, Detroit, Michigan.

MR. MARQUIS: Mr. Chairman, ladies and gentlemen, the subject on which I shall speak to you is the subject of the turnover and the reduction of enormous cost to which industry to-day is subject on that account. I do not know and have no way of ascertaining accurately what the cost may be, but we can rest assured

it amounts to millions of dollars, hundreds of millions, throughout the country in the course of a single year.

In order to give you some slight idea of the loss due to turnover, I am going to take two or three examples that I chance to know. A certain company, not in Detroit but in a town farther west, has a working force of 1,500 men. The president of that company informs me that in order to keep level this force of 1,500 men, he is compelled to hire some 2,400 men a year. I do not know exactly what the loss due to turnover may be in that particular shop, but I am inclined to think that you will agree with me that if the force of 1,500 men remained unchanged throughout the year, the organization would be greatly strengthened and the efficiency of the men, greatly increased. I think we could conservatively estimate an increase in the output to the value, on an average, of $25.00 per man per year. This would mean an increase, on an average, of 8 1-3 cents per man per day. On this basis in a shop employing only 1,500 men the loss to the company would be something like $37,500.00. I am of the opinion it would be a great deal more than that. But this is not the only loss that that turnover of the 2,400 men in that relatively small industry entails. When a man quits a job he sometimes has another job in view and loses no time at all, but if he is discharged he is idle possibly for two or three days, and sometimes for two or three weeks, before he finds another job. Let us suppose that the average time that elapses between one job and another is three days, and suppose we take an average wage of $3.00 a day, and you have by the turnover of those 2,400 men a loss to labor itself of something like $21,600, or a total loss to the company and the men involved of $59,100.00.

I know of another automobile company that has a pay roll of something like 8,500 men. The turnover of this company is about 12,000 men a year. The loss figured on the same basis as above, to this company is $212,500; the loss to the men, $108,000; and the total loss to both is $320,500.

Another example is that of a company which has a pay roll of about 7,000 men, and a turnover of about 13,000 men per year. Figured on the same basis, the loss is about $175,000 to the company and $117,000 to labor, or a total loss of $292,000.

Here you have three companies, employing 17,000 men; you have a turnover of 27,000 men, with a loss to employers of $425,000, and to the employes of $246,600, or a total of $671,600. You may cut this estimate in two if you please, and figure that the loss is only 4 cents per man per day in efficiency where the force is turning over, and that the loss of time to a man discharged is only an average of 1½ days between jobs and you still have a loss of over

$300,000 a year for a little portion of industry that is employing 17,000 men and has a turnover of some 27,000 men.

There is another basis upon which the cost of the turnover is more frequently made and that is, the actual cost of hiring, fitting and then firing a man. In a shop organized as the Ford Motor Company this is the basis upon which you must calculate the loss to the company. Now I have heard it stated that the cost to the Company of hiring a man and putting him into the stream of production is anywhere from $25.00 up to $100.00. The cost of hiring, fitting and then firing a man may be put down as averaging about $50.00. I have come here to-night to tell you how the turnover of this Company was reduced. Here are the facts. In 1913, the Ford Motor Company was employing 13,000 or 14,000 men. It hired that year 52,445 men in order to keep level that force. It lost that year, men leaving for all reasons, 50,448 men—a turnover of about 360 per cent. Now, if you put the cost of hiring, fitting and then firing the men at $25.00 per man—the lowest estimate that is made—you have a loss to the Company that year of $1,261,200. If you put it up to around $50.00, which I think is more nearly what it costs to hire, fit and then fire or lose the man, you have something over $2,500,000. The loss to the men on the same basis that I figured awhile ago—of three days between jobs and an average of $3.00 a day wages—would be in this particular instance $454,032. The lowest estimate of the loss to the company and the men is $1,715,232.

Now the Ford Motor Company set itself, in the face of this startling condition of things, to solve this problem, and to save the waste. The turnover was not doing anybody any good; it was a loss to the Company; it was a loss to the men. If in some way that waste to the Company and the waste to the men could be gathered up and put into a larger wage for the men, it would tend to make them satisfied with their work and inclined to stay with the Company. It would increase the efficiency and output of the shop. In the first ten years of its existence from 1903 to 1913, the Ford Motor Company devoted its attention to the perfecting of its organization, to the working out of the very highest and best type of material that it could put into its machine, and to placing in its shop the very latest thing in automatic machinery. Now, after doing that, after perfecting a most wonderful organization, after introducing all that man could dream of in the way of machinery and all the latest methods, still there was a tremendous loss, still a tremendous waste. As compared with that which the shop ought to be producing the output was away below what it should be and the cost of the car away beyond what it should be.

Three things enter into the making of an automobile, the material, the machinery and the men. The problem of the Ford Motor Com-

pany had been the material and the machinery. But you can assemble the finest machinery in the world, you can have the finest material in the world to work upon, you can have the most complete organization that brains can devise—if the human element of the shop is not right, you can not produce what you should. So many manufacturers seem to have forgotten that the human factor in industry is just as important—and more so—than machinery and the organization. The problem of the Ford Motor Company was a human problem. All industrial problems in the last analysis, come down to human problems. There never was such a thing—can not be such a thing—as an issue between capital and labor. There can not be a fight between the dollar of the man that hires me and my muscle. The trouble, if there is one, is between him as a man and me as a man. The only issue that there can be in the world is the issue between man and man. It is a human problem, this industrial problem. It is a question as to whether or not I, as a working man, am giving the best that is in me to my employer, and my employer as a man is giving the best in him to me.

Some of the causes of turnover and of inefficiency the Ford Motor Company found, after investigation, to be in the main these: The misplaced power to discharge men—misplaced in that it was put in the hands of foremen, sub-foremen and superintendents; second, the failure to place men on jobs to which they are fitted; third, long hours, which gave men little time for recreation and rest; fourth, low wages which render impossible the building and ownership of homes. Inefficiency was found due mainly to three things: Poverty, sickness and wrong home conditions.

Now, these were some of the things that, so far as we could see, were the cause of the unsettled state of affairs in the shop. The Ford Motor Company therefore, set itself to improve the conditions under which its men lived and worked. It had spent millions of dollars on material and machines. It was now determined to spend a few million on the human factor. As Mr. Ford puts it: "Men will stay with you if you make it to their interests to work for your interests." That is all there is to it. If I am working for you, and you make it to my interest to work for your interest, I am pretty sure to hold the job as long as I possibly can. Now let me give you the result of what was done. I will give you the result first, and tell you later what was done.

The new order went into effect January 12th, 1914. In 1913, the year before it went into effect, we hired, as I said, 52,445 men. In 1915, a year after it went into effect, we hired 14,074 men, building up the force several thousands. In 1913, 50,448 men left. In 1915, one year after this went into effect, with a larger force at work, only

2,931 left. In 1913, there were discharged 8,390 men out of the 50,448 who left. In 1915, out of a much larger force, 27 men were discharged. There have elapsed 34 months from the 12th of January, 1914, down to the 1st of November, 1916, and under this new order, from the 12th of January, 1914, to the 1st of November, 1916, 11,700 men have left the Company as against over 50,000 that left in a single year before. Had the 1913 rate of turnover continued the loss would have been 142,936 men in these last 34 months as against 11,700. The force to-day, it must be remembered, is 42,000 or thereabouts, three times that of 1913, and the turnover to-day, at the old rate would be about 150,000 men per year.

Now let me consider very briefly, the things that were done, considering them in detail. First, power to discharge was taken from the hands of the foremen, subforemen and superintendents. When you do that, you must be ready to face two problems: First, the problem of shop discipline, and second, the problem of the maintenance of the authority of the men responsible for the output. How were these problems met? In the first place, power was left in the hands of the foremen, subforemen and superintendents to take a man from one job and put him upon another within the same department. If he could not be fitted into his own department, the superintendent could discharge him from that department, which meant that he would have to go to the employment office where he was transferred to some other department in which an effort would be made to place him. That authority was left in the hands of the foremen, subforemen and superintendent, so that there was still discipline, still power left there. And the other thing we tried to do was this: We endeavored to select and develop a grade of foremen and subforemen who would look after the interest of their men. "Help the other fellow" was made the motto of the shop. I believe that the problem of the right sort of foreman is one of the most important problems that confronts any industrial organization to-day that is facing a large turnover. I do not care how high and fine your ideal as an employer may be; I do not care how much good you may wish your men, how well disposed toward them you may feel, it goes for nothing if your foremen are not the right sort of men. Remember that the foreman represents the company to the man who is working under him. If he gives the man working under him a raw deal, the man who gets it says the company gave him a raw deal; if he is treated fair he says the company is fair. So you see you need this kind of good will running clear down the line through the foreman to your employes. I do not know anything that will help reduce the turnover more than getting the right spirit, the right attitude, in this man who stands next to the man in the shop who is doing the work.

The fitting of the man to his job was another thing that we tried to do. A man applying at our factory for work is not turned down because of physical disability. We have taken on many men whom we know are physically disabled to a greater or less extent. We have a few of most every description, so far as physical disabilities are concerned, but we try to fit them as best we can, finding for them the job for which they are suited.

Another thing we did to reduce the turnover was to reduce the hours. The Ford Motor Company had originally worked ten hours a day and then reduced from ten to nine. We found that change had a wholesome effect on the men. They stayed with us longer and a better spirit existed in the shop. This fact was one of the things that led the Company to take the great step that it took later on, when they increased the minimum wage to $5.00 a day and reduced the day from nine to eight hours. I have been asked a great many times as to why that $5.00 was fixed as a minimum wage. Practically for this reason: that in looking over conditions as they were then, it was found to be necessary, if a man was to keep his family properly. If he was to take care of his children and see that they were kept in school until they were of a proper age to work; if he was to relieve his wife of the responsibility of laboring outside the home; if he was to be able to buy the necessary clothes, food and fuel for his home and have something to look forward to in old age; if he was to take care of his insurance; $5.00 was about the minimum upon which he could do that, and therefore that was established as a minimum wage. Now a man who receives $5.00 a day is a man who is rated at 34 cents an hour as to skill. In addition to this, he receives 28½ cents an hour profit, making 62½ cents an hour, or $5.00 per day. The higher a man's skill, the less is his share in the profit. You take a man rated at 80 cents an hour, the rate for a skilled toolmaker, and he gets 7½ cents an hour profit, making 87½ cents an hour, or $7 a day. People say, "Is that fair? Isn't the skilled man the man upon whom the whole thing rests?" We say, "No. The man who is doing the common, unskilled labor is just as necessary as the man who is doing skilled work, just as necessary as the men who are sitting in the front offices, just as necessary as the man of brains who is at the head of your organization. The man who takes away your ashes, who carts away the refuse of the street, is contributing after all to your health and happiness, making it possible for you to live. We must admit that some man must do that kind of work, and therefore it is but fair that that man be given a chance to live decently in a home that is right, in a neighborhood that is right, and make it unnecessary for his children to go out to labor before their time, so that they

may have the same chance that your children and that my children have. This is only fair."

We gave the larger wage and shorter hour. I wish I had time to say something about the eight hour day. I simply want to say this: That I believe that any man who will try the experiment and give the shorter day without having it torn from him, will find that the good will of the men in his employ will be such that he will receive as much, if not more, than he gives. If a man waits until a shorter day and a higher wage are forced from him, I doubt very much whether he is going to get that good will. I don't believe he will. I believe that a man who works his eight hours a day has done about all that he can do with highest efficiency, and I believe that more work can be accomplished working eight hours than working ten hours a day.

I see my time is up so in conclusion I should like to give you some of the commercial results which followed when we dropped from nine to eight hours with the increased wage. Here is something that happened: The same group of men that made 750 radiators a day working nine hours under the old scheme, produced 1,300 radiators a day working eight hours under the new plan. The same group of men that made 38 sets of fenders working nine hours a day under the old regime produced 50 sets under the new, working eight hours a day. The same group that produced 800 gas tanks a day working nine hours a day under the old regime, produced 1,200 working eight hours a day under the new plan.

Here is something more that came out of this plan. I am going to compare certain figures of the date of January 12th, 1914, with those of two years later, January 12th, 1916. The force had doubled from 14,000 to about 28,000 men. In 1914, the 12th of January, when we started on this new scheme, the men had in banks $999,418. Two years later they had $5,968,936 in bank. The force had doubled. There had been an increase in banking deposits of 499 per cent. When we started this plan, the insurance upon the men we found by a survey to be $2,471,663. Two years later it was $14,822,962. The force had doubled, but the increase in insurance was 500 per cent. The value of homes owned when we started on this scheme was $468,320; two years later the value of homes owned was $2,892,667; 518 per cent increase; lots owned when we started, $67,160; lots owned in 1916, $614,790; homes on contract when we began, $3,281,331; homes on contract two years later, $21,778,493, an increase of 564 per cent; lots contracted when we began, $413,854; lots contracted two years later, $2,800,400, an increase of 577 per cent; paid on homes contracted when we started, $1,111,258; paid two years later, $7,844,614, an increase of 606 per cent; lots on contract paid at the start, $100,757, and two years later, $775,453.

When you put into the hands of men that which enables them to start bank accounts and to build homes and to protect themselves by insurance against the uncertainties of the future, you are doing that which takes out of them the spirit of unrest. This, together with the other things which I have mentioned, is what we have done that has tended to reduce the turnover and to keep our men with us in a loyal and satisfied frame of mind.

CHAIRMAN YOUNG: Dr. Marquis, I believe that I can be fully justified in expressing to you the grateful appreciation that we here this evening feel for your interesting and instructive address and I believe I can also be justified in saying that it has indeed been a revelation to many of us, and no doubt many of us would like to have a large number of places like the Ford Motor Company right here in Pennsylvania.

The next speaker has selected as his subject, Organized Labor and the State Employment Bureau, and it therefore gives me much pleasure to introduce to you John A Phillips, Secretary, Central Labor Union, Philadelphia, Pa.

ORGANIZED LABOR AND THE STATE EMPLOYMENT BUREAU.

By JOHN A. PHILLIPS, Secretary, Central Labor Union, Philadelphia, Pa.

MR. PHILLIPS: In the popular mind the State Employment Bureau is merely a place where men go to get jobs, but in the view of the student of social legislation it is a basic unit in a general scheme of regulation, through which it is proposed so to reorganize commercial and industrial operations as to provide for, among other things, the steady and profitable employment of all available labor during normal periods, and in times of unavoidable business depression, for unemployment insurance. In theory we have been presented with a plan which seeks not merely the perfection of palliative measures, but one which proposes to deal with and to remove, as far as may be possible, the causes which give rise to undesirable conditions in our economic life. This whole program is an ambitious one, and will be viewed with sympathetic interest by all who are honestly desirous of eliminating economic waste wherever possible. Broadly speaking, there is no other group in our whole body politic which is more directly concerned with the successful working out of such proposals than is that represented

by the organized wage earner, for if we will indulge in but the briefest examination of the nature and purposes of the labor movement we will find it to be essentially a product of the very conditions which it is here sought to correct.

In his efforts to bring about improvement in the conditions under which he was forced to sell his labor, the worker was left largely upon his own resources, and if it may be said that the trade-union idea is a narrow one, the answer can be made that it is the best that the worker could do under the circumstances in which he was placed. At the same time it is quite true that while it has proved an effective means of raising wages and reducing the working-day for a large number of workers, it is by no means a solution of the whole problem, and the worker himself, no matter how strongly he may be wedded to the idea of trade organization, is willing to admit this to be the case, and he is willing also to engage in the promotion of any enterprise which will help to bring about the condition desired.

At this time it would be impossible for me to go into all of the ramifications of the subject, but I think it important to say that when the proposition of establishing the State Employment Bureau was first presented in Pennsylvania there appeared considerable opposition on the part of the labor forces. This was due to the fact that the laboring man viewed the matter of employment, in so far as the organized worker was concerned, as having been taken care of by the trade-union itself, and this is largely true. And, while he might have been willing to admit that the establishment of such agencies was necessary in order to take care of the unorganied worker, he was afraid that, inevitably, such a system would become a means of placing in the hands of the employer effective weapons to be used in cases of industrial disputes. That viewpoint resulted in a measure from a misconception of the plan, yet it was born out of the bitter experience of the worker through the long years of industrial life. He held, as a result of his experience, that it would not be possible to create as a state agency a means of this kind and have it impartially administered by one charged with that duty from the state; in other words, his experience with the politicians was such that he felt sure that whatever might be done in that way must inevitably be done to the detriment of the worker. That this has not been the case means that there has come about a change of view on the part of the public as a whole with respect to such questions. This change has been termed, more or less aptly, as "the development of a social conscience," and is so pronounced that we now find ourselves in a position where the State is operating a system of employment exchanges, which has already, and in a very short time, won the sup-

port not only of the public at large, but as well that of the most ardent advocate of the trade-union idea. I happen to have had the opportunity of being somewhat in touch with the development of the State Employment Idea since its inception and I say now the only difficulty I can see is that there has not been established sufficient machinery to take care of the demands which are being made upon the system. In order to do effectively what was intended by this legislation it will be necessary to establish a branch of the State Employment Bureau in every large industrial centre, so that the worker will have a means of securing employment readily and without having to go into another locality. I believe this to be one of the most important things which must be developed in connection with any attempt to bring about better industrial conditions. Speaking from the trade-union standpoint I desire to state that, in so far as I have been able to learn, not only in Philadelphia but through inquiries made of representatives of labor from every point at which branch offices have been operated, and in spite of the fact that more than 21,000 positions have been filled, in no single instance has it been stated that the administration of these agencies has been anything but strictly impartial and in accordance with the letter and spirit of the law.

I say again that this system should be developed because I believe that, as Dr. Jackson said in opening this morning's session: "The solution of a great many of our industrial problems must come as a result of co-operation between the employer, the employe and the State," and so long as men of the type of Dr. Jackson and the men who are at the head of the various bureaus under the Department of Labor and Industry shall continue to exercise their influence and authority, they will find the labor movement of this State more than willing to go half way in an endeavor to work out any problem the solution of which shall be for the benefit of the man who toils. I believe that while the trade-union movement must be protected—and I will never yield an inch in anything that we have been able to establish for the benefit of our members—we, at the same time, have our limitations. There are problems that we can successfully set up defensive measures against, but which can never be solved entirely without securing the voluntary co-operation and action of the employer, under whose control these aspects of the situation come. But if such things are possible, let us have them. We believe that much of it must come from the other side of the house, but whenever we are offered anything that we believe is a sincere effort to better conditions in the industrial field, we stand ready, with the co-operation of the State, to go along and work it out as far as it can be done.

Now I want to say this in conclusion, and I think it is but fair: The work that has been done by the State Employment Bureau in Philadelphia, and I presume it is typical of other localities, has been carried on under the very greatest difficulties. There have not been at any time anything like sufficient funds on hand to pay ordinarily decent wages to the men who are doing the work. In a great many instances they have been compelled to depend entirely upon voluntary assistance. At the same time there is ample evidence that everything possible of accomplishment is being done. They have given their efforts unselfishly toward the development of the employment office idea, and to my mind, it is a reflection upon the people of the State to allow such a condition to continue. I believe that we should make up our minds that the Employment Bureau under the Department of Labor and Industry is going to be supplied with sufficient funds at the next session of the Legislature to meet every condition that could possibly arise, and I feel that if this is done the return will come back a hundredfold, and until this is done we are simply contemplating a good thing and neglecting to take advantage of it.

CHAIRMAN YOUNG: We are through with the speakers of the evening, but so as to give you opportunity to discuss some of the subjects which have been touched upon, I shall call upon Mr. Jacob Lghtner, Director, Employment Bureau, Pennsylvania Department of Labor and Industry, to open the discussion.

MR. LIGHTNER: Mr. Chairman and Gentlemen: I shall just state briefly what the Employment Bureau has been trying to do. So far we have offices in Philadelphia, Johnstown, Altoona, Pittsburgh and one is opening this month in Lancaster and another, later, in DuBois. The Lancaster and DuBois offices are opened under the auspices of the Chambers of Commerce and at their expense that is their method of co-operation.

In DuBois they have made an industrial survey, which I think is an essential piece of work and which no bureau can do business without. The fact of the matter is that no city, regardless of its size, can successfully go before any manufacturer and ask the manufacturer to locate his plant in that city without some such knowledge. The survey contains questions concerning the age of members of the families, whom they are working for, whether they are working permanently or temporarily, their present occupation, their experience in that work, the kind of work they desire in case they are out of employment, their education, whether they are English speaking, and their nationality.

I have outlined the DuBois system because of the fact that DuBois is the very first place in the State of Pennsylvania that has made this industrial survey. Let us suppose that a Chamber of Commerce without a survey of this kind is approached by a manufacturer for the purpose of locating a plant in its town, what kind of information do you think the chamber could give the manufacturer? Such a survey is one of the things that the State Employment Bureau is going to request of every industrial centre of the State of Pennsylvania. Each industrial

centre will send this information to the clearing house at Harrisburg. This latter office will be a centre of information for any portion of the State or for any other state of the United States.

I am happy to-night to inform you that in addition to the co-operation, of the Chambers of Commerce, we have succeeded in adding to our list co-operating offices, the following nonfee employment agencies in Philadelphia located at 1309 Arch Street; 559 City Hall; 507 Arch Street; 1522 Cherry Street; 225 South Third Street; 275 South Fourth Street; 1519 Lombard Street; Marshall and Spring Garden Streets; 21 Harvey Street; and at 4102 Ridge Avenue. These offices will use our forms and report to us at least once a month. Their placement work will be published by the Bureau but distinct from its work. These offices will in no way lose their identity, nor full credit for their individual work. This simply shows you to what extent we intend organizing.

It is our intention to have, if possible, an employment agency in every industrial centre of the State of Pennsylvania, where any man who may be out of employment can get a job. When a man gets out of employment, we want to have so many offices that all he has to do is to visit or to direct a card to the agency nearest to where he lives and we shall endeavor to place him as near his present location as possible so as not to break up his home. There may be a case where we shall be compelled to take a man away from his home perhaps a short distance. Our few offices are now quite a distance apart and therefore it will be necessary for us sometimes to place a man just a little bit farther away from his home than we desire. If we are able later to have other offices, they will keep the towns in line to place the men better.

At the present time we are engaged in hunting men for employers and we wish to have you join in this work. We want the co-operation of all the towns. I see before me one of my good boyhood friends who lived in my town, who is active in progressive movements, and I want him and all the rest of you to remember always that the State Bureau is for your benefit. We are simply your servants to do your bidding. If you present an order to the State Employment Bureau for men, we shall try to pick out men according to the requirements you send us. We shall give them the primary examination so that they will be entitled to your serious consideration when they reach you. I thank you.

CHAIRMAN YOUNG: I understand that Mr. L. E. Woodward of the Employment Department, Homestead Steel Works, Munhall, Pa., is here. We should be glad to have a few words from him.

MR. WOODWARD: I don't feel that I can talk this evening. I am a good listener.

CHAIRMAN YOUNG: Is there any other gentleman who wishes to talk on any matter that has been brought before us this evening?

We have listened to some splendid addresses to-day and all of us feel benefited by hearing these words of wisdom coming from celebrated men, men who are active in the various industries they represent. I might say that this is only the beginning or foretaste of what we will have to-morrow and the following day.

I thank you for your attention this evening and hope you will all be present early to-morrow morning at 9:30.

On motion duly made, seconded and put, the meeting adjourned at 10 o'clock p. m.

WEDNESDAY NOVEMBER 22, 1916.

MORNING SESSION 9:30 O'CLOCK.

Chairman, W. B. McCALEB, Superintendent, Philadelphia Davision of the Pennsylvania Railroad.

MR. JAMES A. STEESE, Department of Labor and Industry: The Conference will come to order for the Wednesday morning session.

Owing to the absence of Chairman R. Boone Abbott, who was to be here this morning, Mr. McCaleb, Past President of the Engineers' Society, has kindly consented to preside in Mr. Abbott's absence, and I therefore have very great pleasure in introducing to you, Mr. W. B. McCaleb, Superintendent of the Philadelphia Division of the Pennsylvania Railroad, who will preside at this session.

CHAIRMAN McCALEB: In opening the meeting I should like to say that I appreciate the compliment and am honored by having the opportunity to preside over this meeting. I feel that my friend, Dr. Jackson, has done a good work in arranging for these meetings and carrying them out, and personally I am very glad to support him as far as lies in my power.

You will note by referring to the program that Mr. Abbott, who was to preside this morning, is President of the Engineers' Society of Pennsylvania. That is an institution having its office in Harrisburg. The building is located at the corner of Front and Chestnut streets and Mr. Abbott desires me to extend to you an invitation to make the building your headquarters, as far as you may find it convenient while you are in Harrisburg. You will find there, committee rooms, writing materials, and reading matter, and if you have a few spare moments I believe that you will find it worth your while to stop in, as you will be made welcome. The Engineers' Society is an organization that is not entirely devoted to engineering matters, but is interested also in industrial matters generally.

Mr. Abbott also desired me to say that the reason the society did not have an industrial exhibit this year, which heretofore has been held during these meetings at Harrisburg, was owing to the fact that they could not secure a suitable room in which to hold the exhibit, and he expressed the hope that in time Harrisburg might have a suitable building of that character, as he believes, and we all believe, considering the large number of conventions that come to Harrisburg, that there is a great need for a building in which exhibits and general entertainments can be held.

We will proceed with the program this morning, but it is necessary to deviate from it a little, and I am first going to call on Mr. Patrick Gilday, Chief of the Bureau of Mediation and Arbitration of the Pennsylvania Department of Labor and Industry, who will make some remarks on the subject of The Elimination of Labor Disputes, and in explanation I will say that Mr. Gilday's duties require him to leave town to-day, therefore Dr. Jackson has suggested that the program be varied to that extent, and that we give Mr. Gilday the opportunity to have the floor the first thing this morning.

I now have the pleasure of introducing Mr. Gilday, who needs no introduction to most of you.

MR. GILDAY: Mr. Chairman, Ladies and Gentlemen, this is the first time that I have ever read a paper before any conference, and also unfortunately I have a cold which affects my throat somewhat but I will try my best to be heard. If I am not, I hope you will bear with me.

My main reason for putting my thought on paper is so that there can be no misunderstanding as to what my thoughts are, and the thoughts of others, in regard to the elimination of industrial disputes. You are all aware of the large number of industrial disputes that have taken place throughout the State of Pennsylvania and throughout the states of this Union within the present year; and while we can read on the philosophy of the trade-union movement and the philosophy of the elimination of strikes, I have been unable to discover a practical method for the elimination of industrial disputes, and only last night while listening to the reverend gentleman, representing the Ford interests, I came to the conclusion that Mr. Ford has come as near as any employer in the United States to the elimination of industrial disputes.

THE ELIMINATION OF LABOR DISPUTES.

By PATRICK GILDAY, Chief, Bureau of Mediation and Arbitration, Department of Labor and Industry, Harrisburg, Pa.

In the great State of Pennsylvania, we feel justly proud of the industries which entitle her to the distinction of being the greatest manufacturing state in the Union. You are familiar with her glorious history as a great producer of mineral wealth and with her products of steel and iron which encircle the earth. As in all of the great laws of life, a great influence carries with it a corresponding amount of responsibility. The State of Pennsylvania as you know, employs thousands of workmen in her mines and factories. So that the problem of the equitable adjustment of wages and hours with their related conditions, is a subject of intense interest to us all. When I attempt to discuss plans for the elimination of labor disputes and to offer suggestions on this very important subject so close to my heart and life, I do so fully mindful of the difficulties attending such an effort.

The many years which I have been connected with the labor movement make me the more cautious in offering remedies, as I feel and appreciate somewhat the difficulties lying in the path of a successful solution of this very important problem. In considering means of eliminating labor disputes, we must naturally consider the causes which lead to them. The first, and perhaps the most

frequent cause, is dissatisfaction with wages and working conditions. This dissatisfaction may begin from several causes, as wages that are less than those in other industries in the same and nearby localities or less than wages in the same line of trade or business in other places. That wages have a distinct relation to the cost of living is, I believe, a recognized fact. The hours of labor are also one of the most important factors in industrial questions to-day. Action leading to labor disputes may be caused by united determination, such as a general strike, or it may take the form of employes of different sections of a plant becoming dissatisfied with their particular work or wages. The usual method leading up to labor disturbances is for the representative of the employes to make demands upon their employer and upon these demands being refused, or the employer failing to comply with them fully, a strike results.

It often happens that men work along for months and years under fixed conditions of wages and hours and are not aware of the fact that they are receiving less wages and working longer hours than others in their same line of work, and when officers of labor organizations advise them of these facts, many times these officers are accused of being agitators. That there are some professional agitators trying to create disturbances when there is no just cause for them, is an accepted fact. However, let us keep in mind that the doctor does not create the disease, that there is generally some real cause for grievances and that the average workman will not strike and continue on strike for weeks and months without cause. The object of the strike of course when conducted in a lawful manner, is to compel the employer to grant the increase of wages or improve working hours or conditions asked for, rather than suffer the inconvenience and loss to him, caused by the withdrawal of his old employes from their work which disrupts the organization of his business. It is this inconvenience and loss to both sides that ofttimes is ignored by the parties to the dispute, when it should be very carefully considered and all the factors leading up to strike or lockout taken into account. Unfortunately many strikes and lockouts occur because of the determination of one or the other side or both, to beat the other without regard to the justice of these claims or grievances.

Here is where the work of the Bureau of Mediation and Arbitration becomes effective. When the officials of this Bureau receive the co-operation of both sides, to which they are entitled, and which is provided for in the law itself, they can and do supply the means of investigation and discussion of the situtation so that means are provided to bring both sides together to consider the matter without regard to pressure or force, and to sit down together and find out

the causes of the trouble, and to reason and work out the problems in a methodical way to a successful conclusion, eliminating the enormous loss of time and money to both sides that comes through a strike.

The record of the work of your Bureau of Mediation and Arbitration of the State of Pennsylvania, shows that peaceful settlements of trade disputes have been made through the work of this board with the co-operation of both sides interested, and in ninety-five per cent of the cases amicable settlements have been reached. The record of the mediation board shows ample proof that the services of this board should be made use of. The law of your state on this subject fully recognizes that the public at large, as well as the parties interested, has a direct concern in these matters, which, of course, were the reasons back of the creation of the Bureau of Mediation and Arbitration. The record of this Bureau, in its success in the handling of disputes with which it has been brought in contact, is ample proof that in all labor controversies both sides should co-operate with this Bureau to eliminate, as far as possible, strikes and lockouts.

Eliminating labor disputes from modern industries is one of the important matters that has been neglected by a large number of employers, and almost totally by the governmental powers of our country, and has only recently begun to receive the serious attention it deserves.

Labor disputes, resulting in strikes or lockouts, are very costly to both employers and employes, in loss of business on one side, loss of wages on the other, and great inconvenience to the public, or consumer. They are often over matters comparatively trivial, are out of all proportion to the cost to all parties concerned, and for the most part are avoidable.

During the past few years by means of humanitarian legislation, and an earnest desire on the part of both employer and employe, great progress has been and is being made in saving the life and limb of the workers, by eliminating avoidable accidents, from our industrial life. I feel that along with this great movement should go the elimination of avoidable strikes and lockouts, from our industrial life.

The federal and state governments are beginning to realize the great economic losses, suffering and inconveniences, caused by strikes and lockouts; they have begun to build the necessary organizations, to study this problem and assist in its elimination, by establishing boards of arbitration, commissions of conciliation, and bureaus of mediation.

But many of these agencies which mark the beginning of the movement have practically no definite powers and can only use

their good offices as an important person or persons, in trying to bring about an understanding between employer and employe. The results obtained, however, under these circumstances, depend entirely on how they are received by the parties in dispute, rather than upon any powers they possess, to enforce a public hearing of the facts in the case.

Various plans have been devised from time to time trying to insure peaceful relations between capital and labor. Some try to do it by profit sharing or bonus systems; others try to do it by ironclad contract; others try to do it by welfare schemes, and still others try to do it by legislation.

For quite a number of years there have been various attempts made to enact laws providing for compulsory arbitration of industrial disputes. The effort has been to use the police power of the state to compel both employing corporations and their employes to continue their activities regardless of any differences they may have as to wages or conditions of labor.

There are two fundamental troubles with this plan. In the first place, every man feels that his labor is his own and none, not even the state, can force him to part with it, for that would be involuntary servitude, or slavery. Therefore, a law compelling a man to work, to every man who is not a criminal or a convict, would be extremely repugnant.

In the second place, under any specified form of compulsory arbitration law, the employer is in a position of commanding advantage. He hires the man and pays the wages; he also establishes the working conditions. He has the right to hire and discharge, and he can use that power to regulate and discriminate against any employes who are not amenable to any new regulations or working conditions he may wish to introduce.

Compulsory arbitration, therefore, amounts to an effort to compel the worker to labor whether he wishes or not, and under conditions in which he has no voice. If a man has a bushel of potatoes to sell and does not like the price or terms of payment offered by a possible customer, he refuses to sell the potatoes. But, under the compulsory arbitration statutes, it is contemplated that man, the image of his Creator, shall be compelled to sell his labor power whether he wants to or not.

The Dominion of Canada has adopted the compulsory idea to quite an extent, particularly as applied to public corporations; but a recent occurrence shows that no law can be made strong enough to tie the hands of labor.

The street railway employes of Hull, in the Province of Quebec, have been for a considerable time asking for better wages and working conditions. The company pursued dilatory tactics and re-

ferred them to the law. Finally, the employes repudiated the statute on the grounds that the company would not be obliged to abide by any award, and notified the company that if their demands were not agreed to within forty-eight hours they would go on strike and tie up the system. Whereupon the company signed an agreement recognizing the union and granting the increased wages and improved working conditions and they are now working in peace.

This is another instance which goes to show that there is no known method of tying the hands of labor, except such reasonable restrictions on both sides as may come from a mutual agreement in which the principal of collective bargaining is recognized and expressed in a trade agreement, between the employer on the one side and the employes upon the other, under the terms of which each respects the rights of the other and a method of settlement of all their differences of opinion is provided.

When wage earners organize to strike, and undertake to enforce their demands upon their employer, without regard to his rights, they may gain for a time, but they are sure to lose in the end. Likewise, when the employer undertakes to handle the labor question, by supressing the rights of the worker, and enforcing arbitrary agreements, one-sided in language, and oppressive in design, he too, may succeed for a time, but he will fail in the end.

Neither of these plans or schemes is tolerant of the other, therefore, neither is broad enough to endure; wherever practiced industrial disputes must ensue. Where the collective bargain, or trade agreement exists, both sides mutually agree on some plan to adjust or to arbitrate any dispute that arises.

Thousands of workers are working under this plan, and where the letter and spirit of the agreement is respected, employers and employes live in peace. Strikes are unknown in these industries.

The advocate of the trade agreement, is the man who opposes strikes and is the workman's best friend, and public benefactor.

Any mutual agreement between employers and employes, that has for its object, the elimination of strikes, is a blessing. They who prevent a strike, do the workingman a great favor, and bring a blessing to society in general.

By many people it is believed that the joint agreement, is the ideal manner of eliminating labor disputes. That it has done wonderful things where it has been given anything like a fair trial, there can be no denial, and it has created some healthy feeling of interest in the industry by those employed in it, that was lost when the corporate form of doing business began to drive the small employer with his close relations to his employes out of business in our industrial life.

The greatest opposition to this method from the employers is the claim that the joint agreement is violated with impunity by the employes, after it has been entered into, and that it is questionable if the employers have any recourse to law, as it is believed that the courts would not sustain such agreements. That contracts have been violated cannot be denied. Experience however, is showing that as this idea becomes more prevalent and the agreements more nearly reach the end of justice, that the violations of them become less frequent. It is a matter of education, and as the workers more clearly understand the idea of joint agreements, the sense of moral obligations to keep them inviolate becomes stronger.

After an opportunity of many years to study causes and effects, I am convinced that the prime source of many suspensions is a lack of contact and understanding between employer and employe. The failure to adjust petty grievances and abuses becomes the cause of irritation entirely disproportionate to their importance when taken singly, but which in accumulation, become the main ground for complaint. Every complaint of the worker should be thoroughly investigated, and the cause of the trouble brought to light.

Industrial peace will never come so long as either employers or employes believe they are deprived of rights honestly belonging to them.

In all industries where unions are not recognized, a labor department, critical of everything touching the interests of the workers should be established. Also a trade board, constantly reviewing and discussing policies and methods to protect the employer against himself, and make it impossible to violate or overlook the rights of the workers.

Disciplinary methods, are a prolific source of disputes with employes and it is difficult to avoid offending the workers' sense of justice, when they are not fully informed of all the facts, as they often hear only one side. Often petty officials do not show good judgment in administering disciplinary power. Very frequently they are tempted to satisfy private dislikes, under pretense of disciplining.

It is essential, in maintaining industrial peace, to centralize the administering of discipline in one official, having no interest except to maintain efficiency of the shop, without disturbing the harmony and good will of the people. Where good judgment is used by the official in charge, peace will be the reward.

During the past few years many companies in this and many other states have concerned themselves very deeply in developing their relations with their employes. Labor disturbance brought keenly to their attention, the necessity of having the good will of

the workers, in order that they might maintain and insure the stability of their business.

The strike question is up for settlement, and it is going to be settled. There is only one way to settle it. Not by compulsion, but by educational process. This fact is dawning on the leading minds of the country which give any thought to the labor question.

From some good, honest, kind-hearted men we often hear the statement made that we should have legislation making it unlawful to organize workmen, for the purpose of causing a strike, or for any body of men to declare, aid, or abet a strike, or for any person to join a strike. The members of any organization or individuals that cause a strike should be held responsible for their action in the matter. These men forget the words of the great emancipator, Abraham Lincoln: "Thank God we have a form of government that when oppression becomes too severe that labor may cease work."

Compulsory investigation or arbitration will not eliminate labor disputes. This is illustrated in the case of the street railway employes of Hull, Quebec, of the barbers' journeymen, the tailors, and the Valley Smelters of the State of Colorado, with their thirty day compulsory law.

We hear from Australia, that the miners of Broken Hill silver mines, and the Hotel and Restaurant employes have just terminated a strike in violation of the Australian federal arbitration act.

The trade-unionists contends that while a strike involves temporary inconveniences which affect many, free workers can not be denied the right to quit work, the right to strike in furtherance of their demands which concern their interests and their manhood. They also hold that it is a fundamental principle of freedom, that no one shall be forced into involuntary servitude, that is, to work against his will. This fundamental principle of freedom must be maintained at all hazards. It must not be minimized under any guise, whether as compulsory arbitration, or in the name of public welfare. The welfare of the whole nation, the maintenance of our republican form of government, and our institutions of freedom depend upon this fundamental right of a freeman to control himself and his labor power. The unions further hold that compulsory arbitration or investigation is un-American and unconstitutional. It establishes involuntary servitude, prohibited by the thirteenth amendment to the United States Constitution. It limits and abridges the freedom of contract, and is in violation of all principles of liberty, freedom and pursuit of happiness. It is class legislation of the most vicious character, and is at variance with the fourteenth amendment of the United States Constitution. It can not and will not eliminate strikes.

Mayor Rolph's plan to create an arbitration board of fifteen which will adjust all industrial controversies in the city of San Francisco, for a period of at least one year, is worthy of consideration. The board is to include, five employers, five workmen, and five business men. Mayor Rolph, believes that this board could relieve much of the present industrial friction, prevent strikes, lockouts, and boycotts, and insure industrial peace in the city. The Mayor hopes to get the employers and employes to adopt this plan, place all disputes in the hands of the arbitrators, and accept their decisions.

In conclusion, I desire to say that the activities of the Bureau of Mediation and Arbitration of the Department of Labor and Industry, under the wise administration and guidance of Commissioner John Price Jackson, have fully justified the creation of the Bureau. The activities of the work of the Bureau during the past two years have resulted in the saving of large sums of money and in bringing about the adjustment of industrial controversies between employers and employes. I feel that these facts fully warrant the favorable consideration of the incoming Legislature in order that the scope of the activities of the Bureau may be still further broadened and made still more useful.

CHAIRMAN McCALER: Any discussion of Mr. Gilday's paper I think should probably be deferred until the day upon which the paper was to have been read, on Thursday. So in justice to those who are to address us this morning and who came here for that purpose, I think it would be proper to now proceed with the regular order of this morning's business.

The first on the program is a paper on The Accident Problem of the Iron and Steel Industries by J. S. Herbert, Superintendent, Safety Department, Cambria Steel Company, Johnstown, Pa.

I now have the pleasure of introducing Mr. Herbert to you.

THE ACCIDENT PROBLEM OF THE IRON AND STEEL INDUSTRIES.

By J. H. HERBERT, Superintendent, Safety Department, Cambria Steel Co., Johnstown, Pa.

Ladies and gentlemen, yesterday you heard a number of speakers who presented apologies for not having had time to prepare a speech. I can only add, "So say we all." I neglected to prepare a paper and as I am not an extemporaneous speaker, I am only going to tell you

a homely little story. That story has to do with the Cambria Steel Company; what we have learned, what we have been able to accomplish to date, how we have accomplished it, and what we hope to do in the future. To start with, I will have to go back quite some time, along in the early fifties. At that time the Cambria Steel Company was organized with probably two hundred or three hundred employes. The firm has grown until now it has about nineteen thousand men on the pay roll and an output of 1,200,000 tons of finished steel products a year. This Company was controlled from the time of its inception and until a very recent period by a bunch of Philadelphia Quakers—"Friends," I believe they call themselves—and I believe that what success we have had at Cambria is due to the fact that the meat of that word has been scattered about the works where, while we are not all Quakers, we are "friends" from the laborer to the Vice President and General Manager who served his apprenticeship in the Cambria Steel Company's pattern shop.

Many years ago the Company built the first industrial hospital in the world and hired the best surgeon that they could get. Dr. John B. Lowman took charge of this hospital in his early days of practice. When he retired, due to old age, he gave the work as a heritage to his son, Dr. John B., the second. When John B., second, retired, he handed it down to Dr. John B. Lowman, third, who is now a gray haired surgeon. This will give you an idea of the length of life of the hospital. Some forty years ago a benefit association was started to take care of the families of the men while they were in the hospital that I have just mentioned. This was not intended to be a charitable institution, so it was a give-and-take proposition, the expenses of the maintenance being divided between monthly payments on the part of the men and a fixed donation from the Company. The men ran the association, appointing by popular vote certain directors, other directors were appointed by the Company, and this directorate handled all the affairs of the hospital and the benefit association. Whenever a man was injured he was put in the hospital, he was given the best medical treatment that money could buy and his family received the relief from the association. But about three years ago while the Company had grown to its present size and the hospital had grown in proportion, requiring the employment of nurse after nurse, the management began to sit up and take notice. They found a bad leak at that point and made up their minds that we had been hunting for the horse after he was stolen and that it would be a pretty good idea to lock the door and see if we could not keep the horse in the barn, instead of hunting for him in the field, so we took up the matter of accident prevention. We had the effect in the hospital and our surgeons were able to cope with that. The next thought

CAMBRIA STEEL CO.

PERCENTAGES OF ALL MEN INJURED IN DIFFERENT OCCUPATIONS DURING 32 MONTHS.

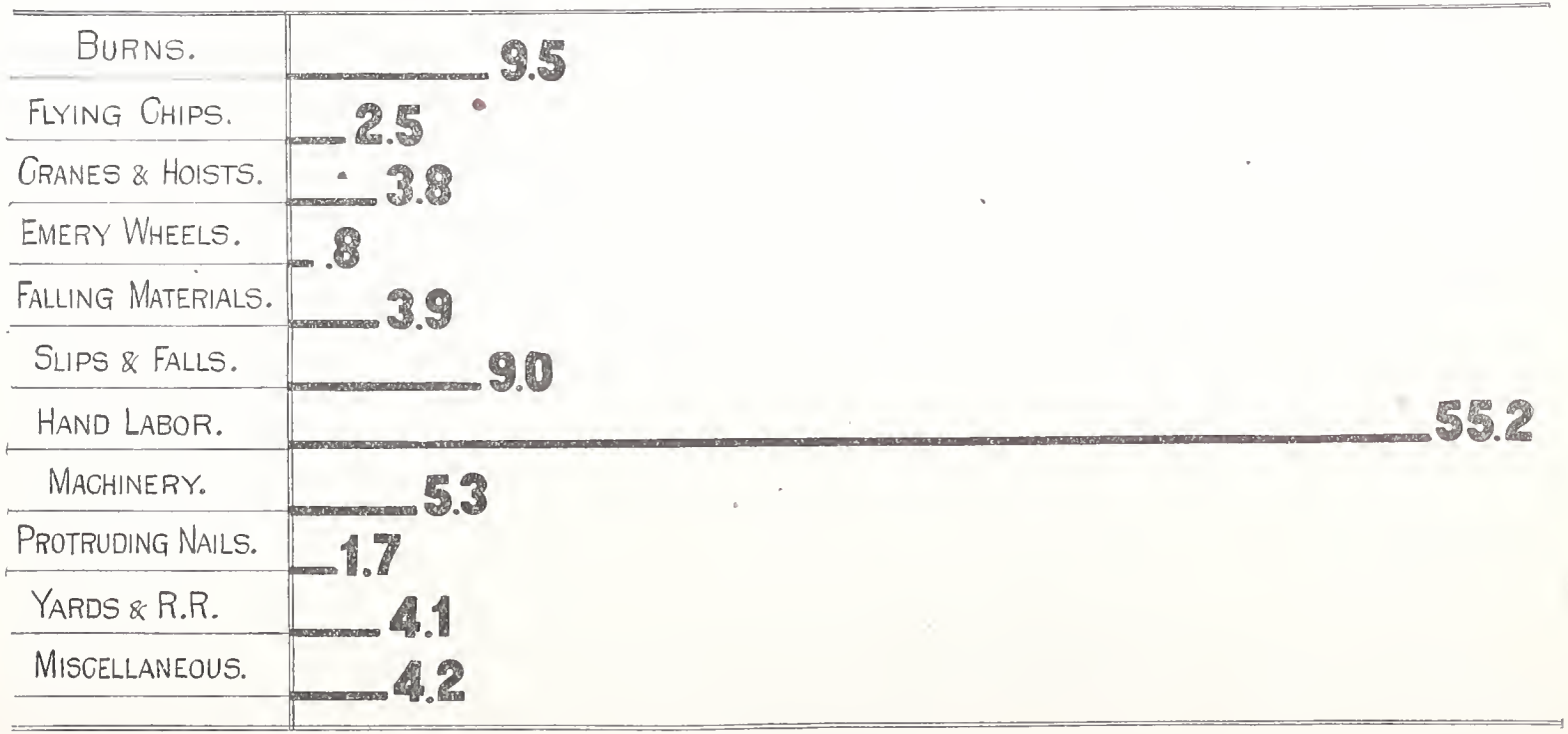

CHART No. 1.

CAMBRIA STEEL CO.

Comparative Number of Accidents per 100 Men Employed In All Departments and Occupations Over a Period of 32 Months.

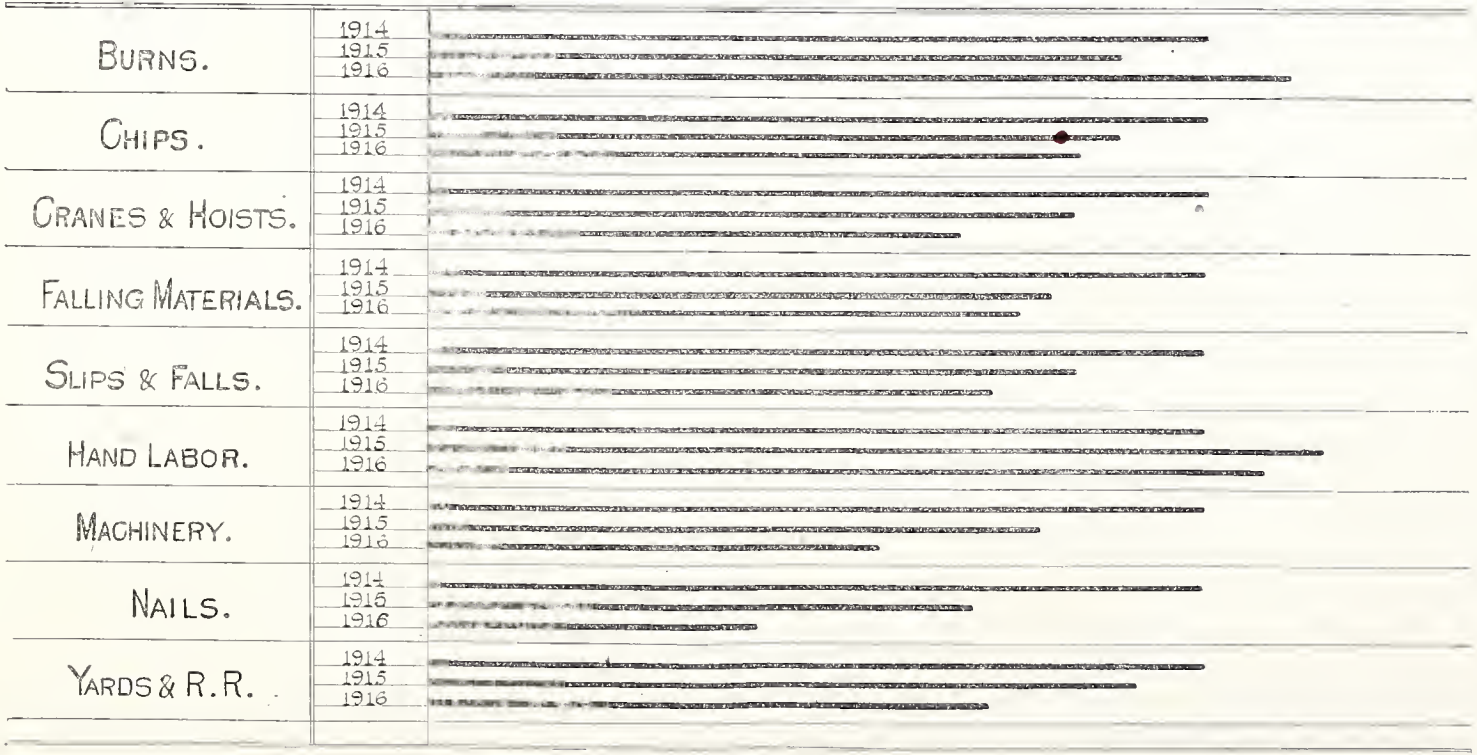

CHART No. 2.

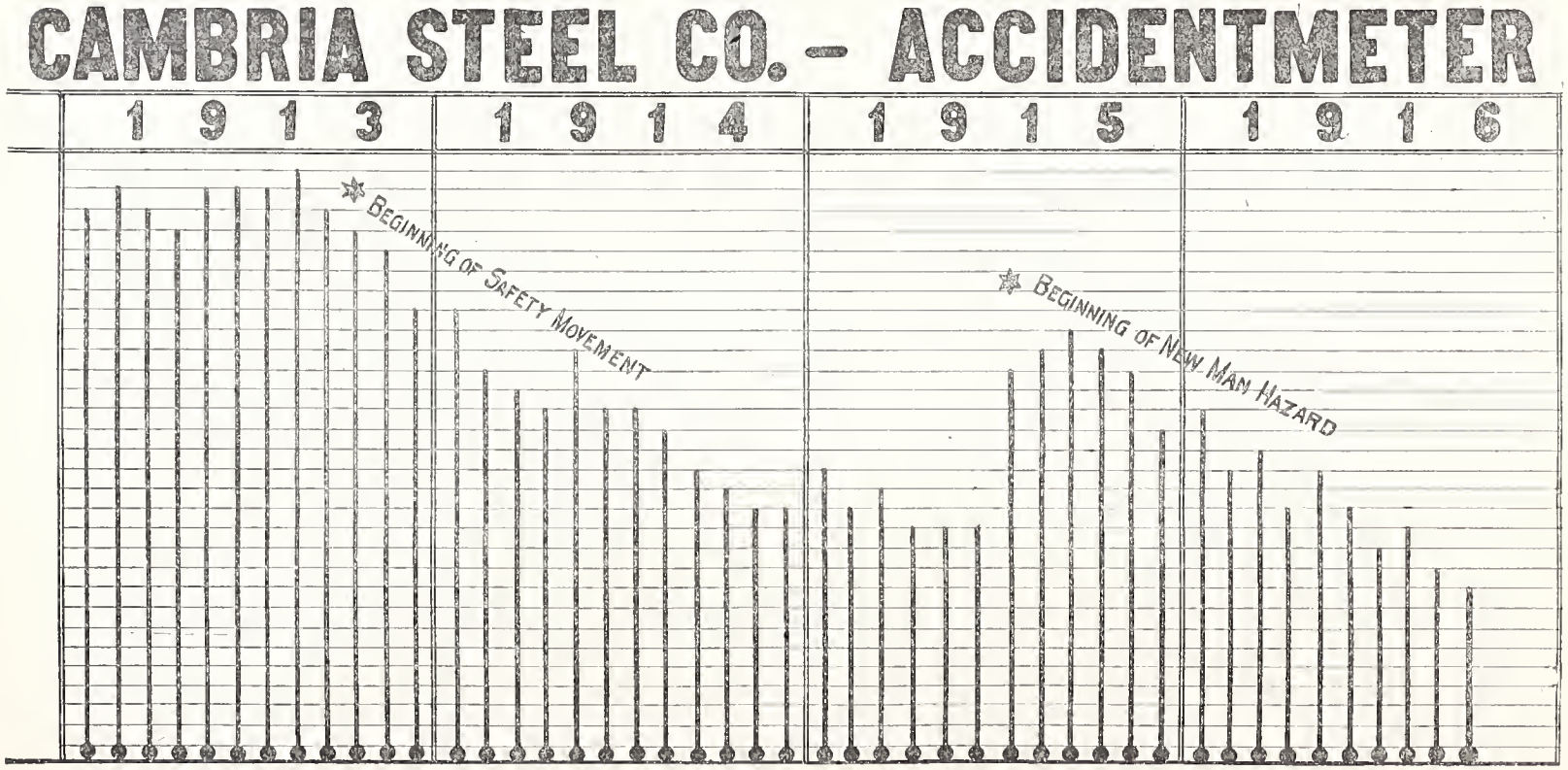
CAMBRIA STEEL CO. – ACCIDENTMETER
1913
1914
1915
1916
BEGINNING OF SAFETY MOVEMENT
BEGINNING OF NEW MAN HAZARD

CHART No. 3.

CAMBRIA STEEL CO.

Graphic Illustration of New Men Employed by Months.

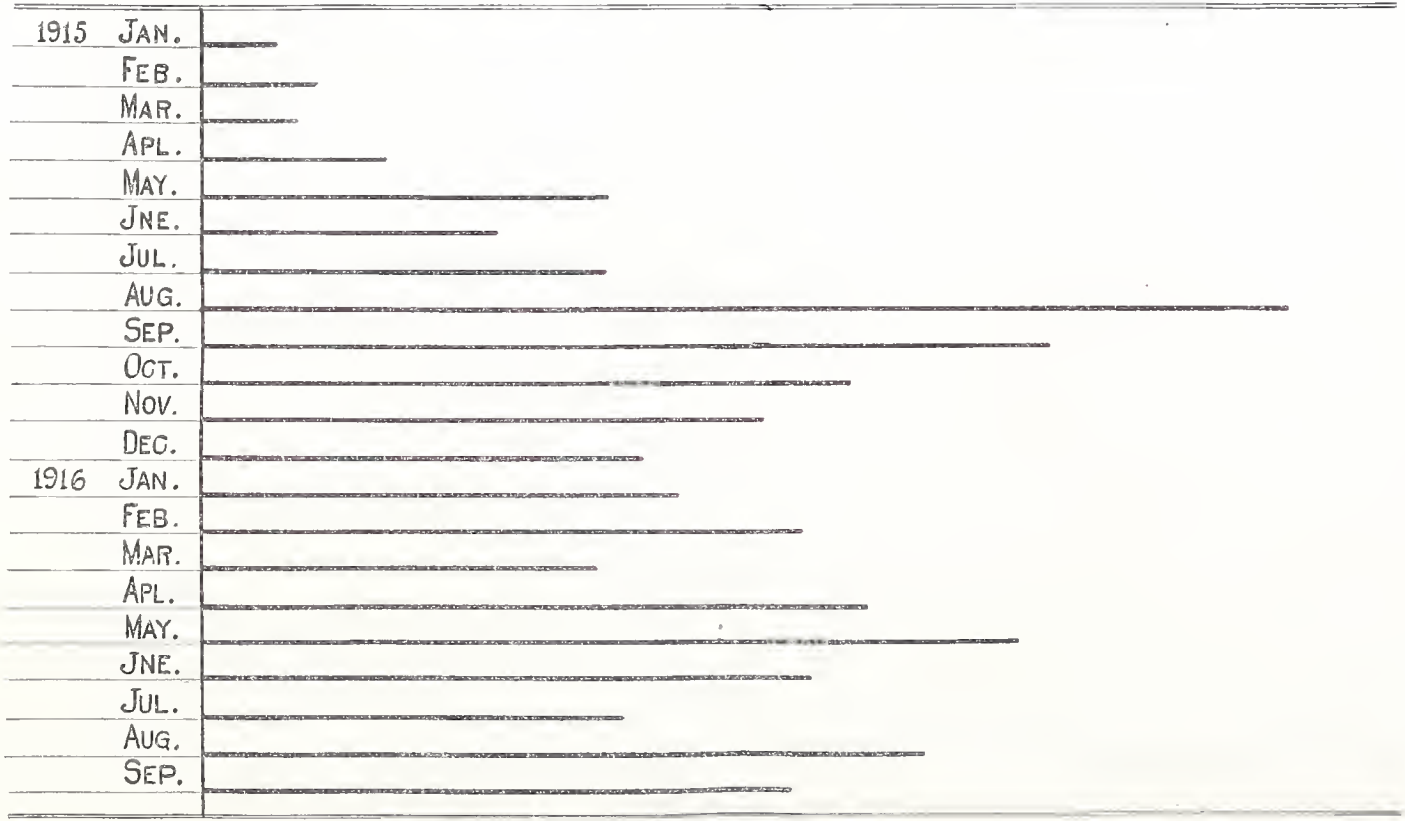

CHART No. 4.

CAMBRIA STEEL CO.

GRAPHIC ILLUSTRATION OF PERCENTAGE OF MEN INJURED WITH RESPECT TO TERM OF SERVICE.

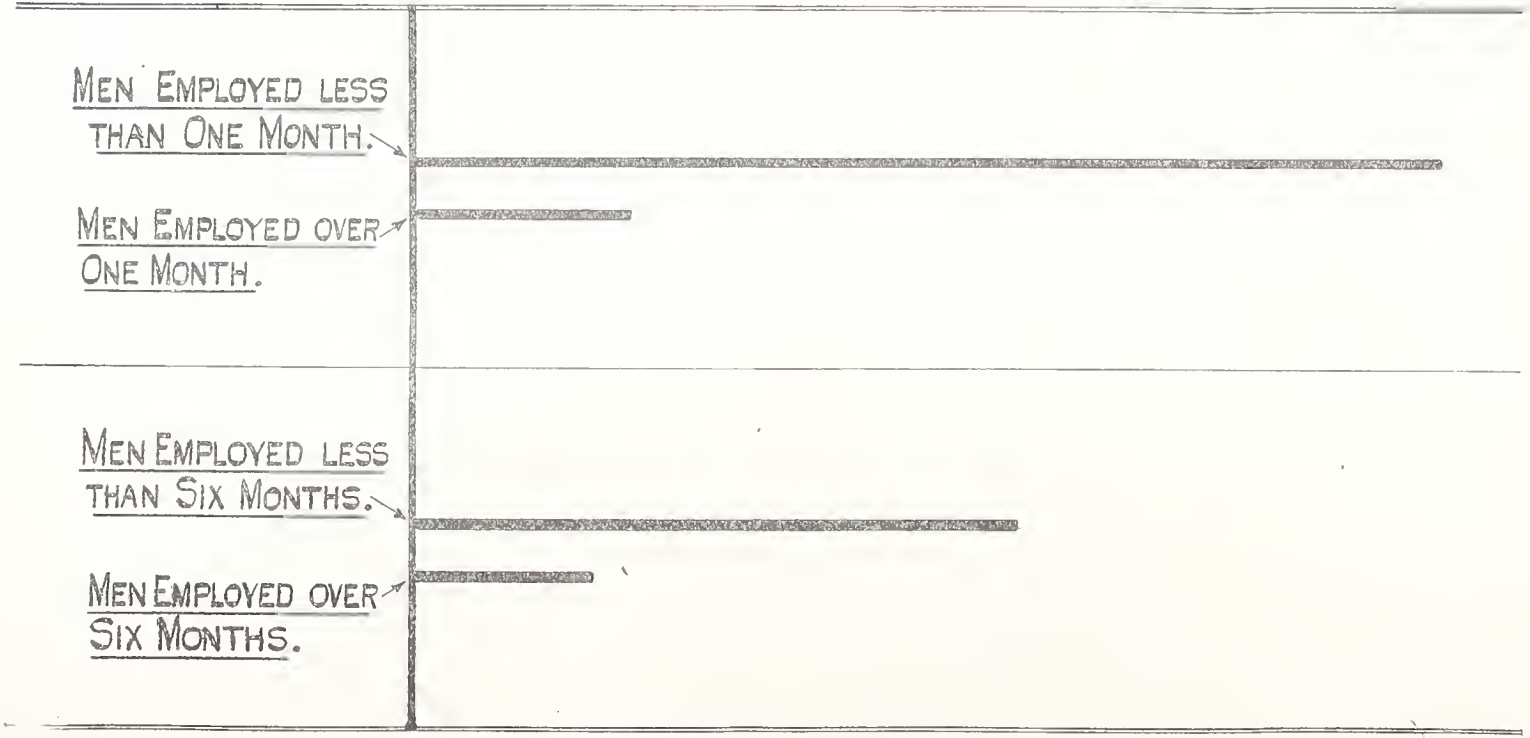

CHART No. 5.

was the cause. We found we were badly handicapped because we had no authentic statistics. We knew from our hospital record that a certain number of men were taken into that hospital every year or every month due to injuries. We knew the total number of patient days in the hospital and we could very readily arrive at the average days per accident, but we did not have a leg to stand on when we tried to prevent the accidents. We started in with many forms of statistics. We were under the impression that accidents of our kind were due to the iron and steel industry and we hunted for something that was peculiar to us. After we had investigated in the field, the conditions in connection with, and the local conditions surrounding one thousand individual accidents we began to learn something about what caused them. We found, first, to our surprise, that they are not peculiar to the iron and steel industry. We have the same kind of accidents in our machine shop that the purely machine shop operator has. We have, in our six hundred men in the transportation department, the same kind of accidents as you witnessed on the screen last night. This applies to the Pennsylvania, to the Baltimore and Ohio, to the New Haven and Hartford, or to any other railroad. In our carpenter shop, our men have their fingers injured just the same as in the strictly planing mill proposition. In our general yards, we have the same accidents incident to the general laborer. Our riggers and construction men are hurt just the same as your bridge builders or structural iron workers, putting up a building in New York City; so that they are not peculiar to the iron and steel industry; therefore in taking up our own conditions, a great many of you, who never saw the inside of an iron or steel mill, will see something, I think, that will give you food for thought in your own work.

When we first found the cause of the accident, of course, our next move was to eliminate the cause, if possible. Now, as I did not have time to do anything in the way of preparation, I selected five of our record charts of which we have about twenty, each chart showing graphically the trend of events of some particular kind.*

I am going to explain what the charts mean, how we found out what we did, and what steps we have taken to overcome the condition discovered.

You note that each heading in Chart No. 2 has a line representing the years 1914, 1915 and 1916. Each line represents to a scale of inches the percentage of injuries received per hundred employes for an average month out of thirty-two. In other words, it shows the comparative number of accidents per one hundred men employed in all departments and occupations over a period of thirty-two months.

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*(Note:—These charts appear on pages accompanying this address.)

Now we will pass to Chart No. 3. This one is called our "Accident-meter." You notice the star, headed "Beginning of Saftey Movement." Each one of these lines represents the glass mercury column of a thermometer. The black line denotes a certain number of injuries per hundred employes per month.

Next we will take our "New Man Chart," Chart No. 4, and refer to the accident-meter again a little bit later. This represents the hundreds of new men employed each calendar month during the period under consideration. Notice that in May and June where our accident reduction stops, the employment of new men started up. In July they hit us pretty hard and in August at the time we had our abrupt rise in injuries, note the line of new men employed.

Now we will take Chart No. 5. It contains the meat of these last two. Here is the result of our investigation. The upper line shows graphically the accidents per hundred employes employed for less than thirty days; the second line, to the same scale, the injuries per hundred men who had worked for us over thirty days. The figures there are about six to one; that is, we discovered that a man who has worked in the iron and steel works less than thirty days is six times as liable to be injured as a man who has worked over thirty days. If that proposition had been carried out through our entire works we would have had six times as many injuries to report to the Department of Labor and Industry as we actually had and probably there would have been some aching voids in the Safety Department. Now then we took the men employed less than six months and we compared them with the men employed over six months and you will note that the less than six months worker is four times as apt to be injured as the over six months worker. Remember, that this is exaggerated slightly by reason of the fact that all of your thirty day workers are included in your six months workers.

Now we have learned that we could not put a safeguard on the new man. We found that his hazard was due to ignorance, mainly of the operation with which he was connected. We were taking the foreign laborer, the Bohunk or the flathead, as you call him, who had followed agricultural pursuits in Europe; we were bringing him over here, and the employment agent was sending him out to do general work, and the poor Bohunk who never saw a steam train in his life unless at a distance, except when he came over, was put out into the yards; shifting and mechanical operations were going on and he became confused and did not know what to do or where to go. He did not know what to be afraid of; he was afraid of everything; so he stood still and got hit.

I am going to call your attention the accidentmeter again (Chart 3). That will show you if our conclusions as to the cause of this abrupt rise in accidents were correct.

You will notice that apparently after three months' work we broke in on the situation and evidently got our finger on the pulse. The accidents are coming down, slowly it is true, but nevertheless the reduction is a straight average line. It is constant, and that is the big thing. Jumps are freaks, and come by accident, but you don't deserve credit for them. An accident of any kind is never creditable whether in your favor or against it. We started out on a campaign of education. The educational force consists of one man in the field all the time, with myself and an assistant part of the time; so don't be discouraged if you don't have a large organization to do business with. You don't need it if you put your own shoulder to the wheel and get busy. We went to the different parts of the works. We tried to make friends of the foremen. We wanted them to lose sight of the fact that we came from the office. We tried to learn everything we could about their work. We were careful not to point to a bevel gear and say, "Bill, don't you think that cog wheel ought to have a guard on it?"

We did not climb on a locomotive and refer to the throttle as a speed lever. We called things by their proper names because we felt that unless we could show the workman that we understood his operation, he would hardly consider us competent to advise him as to the proper method of performing his work. We tried to go back to the doctrine of the Quakers who owned the Company, and be friends. We might say, "Bill, you are doing fine, if you could cut down a little more, believe me you would have a record, I was talking to the boss about you and he has his eye on you. Let us see, you had four accidents last month; probably we can cut that down to two this month."

There is nothing like instructing these men but it must be in the right way. Before we go into executive session with a foreman, we find out how many ways his men get hurt and decide the way in which these accidents could have been prevented. We find in nearly every man's operations there are only five or six or perhaps ten logical ways to receive an injury. Perhaps your foreman has never thought of it, he is not paid to do that. He is paid to watch his men and get the work out. You are paid to think for him as to devising the ways and means. As soon as you can show the foreman that there are only five or six ways that accidents can logically happen under his charge, and how easy it is to look after them, you are teaching him to take care of his men. Take your railroad—there you have only about ten ways that a railroad man can get hurt except in extraordinary cases. It is easy to teach a man how to play safe on ten different actions or operations. Get the foreman to work with you and educate his own men. I will cite one case. My assistant did a good half day's work at one of our shipping warehouses, teaching every one how to lift kegs of

nails properly without straining their backs and without being dead tired at the end of the day. We have found that one of the secrets is this: First, make a friend of your man, let him realize that you are talking for his good and that it is not a skin game that the company is trying to put on him; second, show him how he can make his day's work easier by making it safer. I noticed that my assistant walked stiff after the lesson that he gave the men but I would rather have him work hard once than get ten strained backs from the warehouse. Since the lesson, we have not had a strained back from that warehouse.

That is the reason that while the influx of new men still keeps up, the injuries per hundred men, per month, are coming down. If we can ever get to that black line at the bottom of the page, I think that probably we will all quit while our credit is good.

Now, the important features we have discovered, to sum up again are: Education and co-operation and proper guards—and I don't mean a wildeyed campaign, spending hundreds of thousands of dollars, probably, to tell the truth, we have spent less money at the Cambria Steel Works than has any other concern of its size in the country, which has taken up accident prevention, and yet we have never been limited; we have never been on an appropriation. An order written or signed by the superintendent of the Safety Department is authority for the money necessary to put in the installation. He does not have to go to the General Manager and ask permission to write the order. An order signed by any official of the Safety Department will stop any machine or operation of the Cambria Steel Works until it comes clean. But again let me say, we want to be friends with the men and we want them for our friends; because we believe that to succeed in accident prevention we must have co-operation and that we can not stand on the hilltop and shout "Co-operation." We must go down among the men, and we must be charitable. We must remember that if Bill or Sam had had the advantages that we have had maybe he would have our job. Probably there is a good reason for his being there; and a thing that may be entirely clear to us may require going over two or three times with him; but we usually find that it is extremely worth while.

In the first year of accident prevention in the Cambria Steel Works the men looked on us rather suspiciously. They wondered what new skin game it was, but they found out that instead of taking something away, they were getting much good. We published to the men the amount of money they had lost in certain months by not being able to work. We called their attention to the number of shoes that would buy for the babies, and the number of bags of flour, and the months of rent it would pay; and we taught them that they were losing all this by reason of being unfit for work.

At the start, we did not study law. We have never considered Dr. Jackson and his associates as representing the law, but we considered them from our Cambria Steel Works standpoint, as men and friends. We have never asked yet, "What is the law in this case?" We ask them, "How do you think, in your experience, we ought to get at this tickler?" We come to them for assistance and guidance and not to find out what we are obliged to do. We sometimes take the bull by the horns and get a little bit severe. I was interested in one gentleman who spoke yesterday, who said that there was a tendency on the part of some of the companies to keep a man off work for about eight or ten days to prevent an infection setting in, and thus cause him to lose time. Right at the present time, I should like to meet the general manager of a company in Pennsylvania, that would not like to have a few more men at work than he has now. I think the main effort is to get them back quick. We have to report to the Department of Labor and Industry, every man who is injured and loses more than two days and we like to see them back on the next day every time we can. We do arbitrarily stick a man in the hospital sometimes. Our plant has existed in a small town for so long that most of our employes are either old, original stagers, the old gray headed men who have worked for us many years, or sons and grandsons of those original employes. Our floating population is only about five thousand out of our total. We know these men and we have had three generations of surgeons handling them and they know the traits and dispositions of most of our employes. If Bill comes in with a sore foot, ordinarily Bill would go home to be brought in the office automobile to the dispensary every morning for treatment and dressing, but perhaps we know that Bill likes to shoot pool and we know that Bill will be limping around a billiard table all day; but Bill doesn't; Bill goes to bed in the hospital until that foot is able to walk on. We get him where we can watch him and we know he is not walking on the foot when he shouldn't. There may be cases in which certain employers go the extreme. We might inadvertently do it. Sometimes I kick at the doctor about not getting men back to work. He says "You cry, 'Play safe.' That is what I am doing. I don't know that infection is not going to develop and I am playing safe; it looks bad and I am afraid of the case." So, I imagine there is quite a bit to be said for both sides as to putting men back. However, we want to get them back as quickly as we can to save lost time, because we are just as interested in seeing our loss in time per man go down as in seeing our dollars and cents of compensation go down.

Now I am going to direct a few words to you safety workers; don't go over your man's head. Go out and make a friend of him;

save your technicalities for the general manager's office, and when you go out to talk to Bill, talk to him in language that Bill can understand and the first thing you do, cause Bill to feel that you are out there because you are a friend of his and not because the company pays you so much a month to look wise and shout "Safety First," with an assistant to follow on your heels tacking up signs on the bulletin boards for them to read. We use the bulletin boards. How many men understand them, I don't know, and I don't believe you do. I don't believe a man in the audience can tell me how much good he has gotten from the bulletins or from motion pictures. We know that you get some good and we use them, and all the generally accepted methods. We often go so far as to talk over our troubles with the factory inspector in our local district. We get his idea and we make a friend of him and he is a friend of ours; and when we want to get at a problem, we take him out and say, "Mac, look at this; we have a bad condition here; how do you think we can break this up?" The game of co-operation must be all along the line, and we try to operate on it and show the other fellow that we are doing our part in the co-operating.

On the other hand we are about as stiff a bunch as you will find, if we find a man not playing the game with us and especially our foremen. Mike and Pete are not to be blamed for not understanding the hazard of their employment. They are new; they have not been trained, but in time they will understand. Don't start with Mike and Pete, start with the foreman, the man who has been placed in a superior position by reason of his more complete knowledge of the work to be done. These are the men that you must educate; these men whom you put over your new men. They must be the instructors if you are ever going to get anywhere. Laws won't do it. The trouble is right in your own works and men, and you have got to make your own local laws for the things that the law of the Commonwealth can not reach. I thank you.

CHAIRMAN McCALEB: The next subject on the program is The Accident Problem of the Electric Companies, which was to have been handled by Mr. Joseph B. McCall, President, Philadelphia Electric Company of Philadelphia, Pa., but as he is not able to be here his place will be taken by Mr. B. Frank Day of that same Company.

MR. DAY: Mr. Chairman, Ladies and Gentemen, it was with great regret that Mr. McCall found that he would not be able to comply with Dr. Jackson's request and present a paper at this time. He is so completely taken up with executive matters at this time that he really found that it would be out of the question even to consider it when the request came.

THE ACCIDENT PROBLEM OF THE ELECTRIC COMPANIES.

By B. FRANK DAY, Philadelphia Electric Co., Philadelphia, Pa.

The Accident Problem of the Electric Power Company is in most points identical with that encountered by practically all large employers of labor, and has only such differences as are looked for in different industries where the type of machinery and operating method is obviously not the same as the plant that is producing for the use of the public, an output of quite different character.

Our problems are only such as we know can be solved by the application of careful, common sense methods, which means using good judgment in installing mechanical safeguards to all hazards, and in securing the intelligent help of all employes, by educating them to an appreciation of the importance of personal caution in the performance of all work.

Every industry has some few hazards, however, that are peculiar to itself, and the generating and distributing of electrical energy is not an exception. Let it be understood, however, that the hazards of the electric power company are in no sense so great as is generally imagined by those unfamiliar with conditions. The iron and steel industry, the transportation companies (steam or electric), and many manufacturing companies, in all probability have a far greater hazard, that is peculiar to the industry, than has the electric light and power company. One utility company furnishes transportation, another gas, another water, all perfectly and harmlessly distributed, unless interfered with or diverted from their regular channels, but just as soon as either is diverted from the regular course, trouble follows. This is identical with the use or misuse of electrical current or apparatus whether in the station or in the distributing system of the electric company. The best known methods of placing and of protecting apparatus or wires can not be perfect and for that reason the electric company has always urged both workmen and the public to consider all wires as dangerous, and to avoid contact with such wires, unless properly insulated against grounds.

Electric companies are fully awake to the necessity of using proper safeguards, and have given close thought to the problems of accident prevention generally and to those that are peculiar to the industry.

The accident problems of the electric company may be considered under three general divisions:

1st. Those that concern the safeguarding of men and equipment.

2nd. Those that concern the educating of employes.

3rd. Those that concern the safeguarding and the educating of the public.

The first of these problems confronts us at the very fountainhead of the activities of the company, i. e., the generating station. Here the one ever present thought in the mind of the construction engineer is safety.

Accident problems present themselves with the arrival and handling of the first material that enters into the construction of the building, or with the arrival of the first excavating equipment; and during the construction of the plant, safety is kept in mind from foundations to roof, as well as in designing and erecting all station equipment, whether the apparatus be the steam equipment or the electrical generating or distributing apparatus.

In constructing the present day station there are no chances taken. All material and devices used are fully considered, with the view of securing the safest working conditions possible when the plant becomes an active unit in the operating system. The problem of safeguarding the workmen during construction is taken care of by having special inspectors, alert of mind, and who appreciate the need of every contractor using safe methods for the protection of his own men as well as the employes of all other contractors who must come and go amidst the varied and simultaneous operations. Throughout the progress of construction "Safety Always" is being urged, and practiced.

The modern use of high voltage currents has resulted in the placing of the station conductors and live equipment in concrete compartments always inaccessible except to those employes who are specially trained and fully familiar with the care of such equipment. Remote control is the general practice in high voltage stations, and only through the grossest lack of caution on the part of the employe could he come in contact with dangerous current.

The generally existing impression regarding the electric current and the danger of contact, is an exaggerated one, and the fact of the matter is that where workmen use the proper precautions, in the way of dry shoes, rubber mats, line shields, or dry wooden floors, they can work in perfect safety. The electric companies do their utmost to encourage the fullest use of all protective devices by wiremen and linemen, all of which, are, of course, furnished freely to the workmen, and all such tools or devices as show indication of deterioration are renewed freely upon return of the old equipment.

Throughout the station the importance of the accident problem is kept in mind and hazards minimized. Stairs are substituted for ladders wherever possible. Handrails and guards are placed about the generators and transforming equipment. Caution signs are prominently and permanently placed at all points where the thoughtless might trespass.

Notwithstanding all efforts to prevent accidents, it is only too well realized that we are dealing with the human element—and with a certain number of men who will not save themselves from themselves. It may be of interest to mention that in beginning the construction of a large electric power plant on the Delaware River, arrangements have been made for the installation of fully equipped temporary first aid station, and the regular attendance of a competent physician to give prompt attention to the many minor injuries, such as cuts, bruises and other injuries that inevitably occur where a large number of men are engaged on an extensive construction job. This equipment is virtually a complete six bed hospital and after doing its good service during the construction period, will be transferred to permanent first aid quarters in the completed station. This indicates a practical solution of the prevention of infections and removes all excuse for neglecting minor injuries. One of our most annoying problems is the tendency of employes to conceal minor injuries and to apply home remedies that in many cases produce alarmingly dangerous conditions, sometimes jeopardizing the employe's life. It seems almost impossible to guard against this condition which crops out every now and again, in spite of the fact that employe thus penalizes himself through the disobedience of positive instructions. The Company also maintains adequate first aid cabinets at each station and office, and each construction wagon is also supplied with a cabinet which is fitted with all necessary supplies to care for the minor injuries that are of frequent occurrence.

The second accident problem of the electric company is that of educating employes, in the operating and distribution system, to a full appreciation of the nature and responsibility of the work, and of the necessity for mental alertness and the application of good common sense in the performance of the daily routine.

The fact of the latent danger is apt to be lost sight of, and the compliance with safety regulations is likely to become lax, if the campaign of educational safety work is not vigorously followed up; and at times it becomes necessary to penalize the careless man, even to the point of dismissal, when he persistently jeopardizes his own and his fellow employe's safety.

Much can be done if the proper care is exercised in the selection of men for the various positions of responsibility according to the du-

ties to be performed; and a man of known intemperate habits can not be tolerated around the power plant.

Statistics indicate that the solution of the accident problem is at least 80 per cent education in personal caution, and it would be useless to expend large sums of money for safeguarding devices and continuing safety organizations, and not devote much time and system to getting the men to appreciate that their own well-being is the point of great importance, and that this result can be attained—not by safety devices so much as by their personal effort—by a mind that first thinks how to do the work safely, and then performs the task.

The use of simple and positive rules, has much to do with the prevention of accidents, and the rules laid down should be rigorously enforced. This is particularly true in regard to certain lines of work. It is often most difficult to persuade men of the necessity of using safeguards, inasmuch as they are constantly working amid charged lines, and seem to be satisfied to work on the theory that not having had serious accidents, they are therefore immune.

Rules regarding the use of line shields, rubber gloves and safety belts, are surprisingly distasteful to many linemen, but their use should be insisted on by all foremen, under penalty of dismissal.

The lamp trimmers of our Company had many accidents due to falls. The Company insisted upon the use of a safety belt by all trimmers, and the result, during the first year, was a reduction of 60 per cent in accidents to trimmers. There has not been a fatality among the trimmers for over two years, and it has become apparent that many fatalities of former years were in reality due to results of the fall from the pole, rather than to electric shock.

It must be said that the co-operation of all employes in the accident prevention work, is becoming more and more cordial. The old-time argument that the employer was only trying to get the men to save some money for him is about dead, and men now realize that the employer desires to save them to their families and to society, and jointly they are doing valiantly in minimizing the accidents in the electrical industry. The results of safety education of former years are manifest and employes in all departments are helping to protect themselves, and in most cases are heeding the injunction, "In case of doubt, adopt the safe course."

The third accident problem, that of safeguarding and educating the public to the careful handling of electrical wires and appliances, is one of some difficulty in the solution. Electrical accidents occur, not in the use so much as in the misuse of current or devices, for as mentioned in the earlier parts of this paper, current is as safe as water, so long as confined to properly protected conductors, from

the source of generation until it has performed its ultimate purpose, i. e., bringing the lamp filament to the point of light giving incandescence, or driving the motor that is to turn the machinery of the shop or factory; and the very few authenticated instances of even minor injury among the vast number of persons using or working about electrical devices, is a fair substantiation for the claim that the public generally appreciates the importance of a proper use of all wire fed equipment in common use.

The very complete rules of the various Underwriters' Boards insure protection to the seller of, and the user of electric current, and when to this inspection there is added the still more exacting requirements of the electric company, it would seem that there is ample protection for the public, and that fire or other accident can result only when rules are evaded, or when equipment is misused, and no attention is given to repairing the defects. There is practically an absence of such accidents in the extensive territory with which the writer is associated and this is undoubtedly due to the facts as indicated, i. e., exacting rules as regards safe wiring, and insisting, without deviation, upon the rules being adhered to before the current is turned on.

In view of the fact that so much work must be done by the electric company on the highways of our cities and towns, it speaks well for the care of the companies, and their employes, that there are so few accidents in which the public is involved. The Philadelphia Electric Company furnishes electric service to the homes and industries of an area of three to four hundred square miles, and work on the facilities for distributing electric energy must be done during the busy hours of daylight. Poles must be erected, and wires must be strung. The streets must be opened for construction or maintenance purposes, while many thousands of persons are passing to and fro, and while teams and cars are coming and going; notwithstanding the confusion of traffic, accidents in connection with the performance of this work are rare indeed. This is due to the fair measure of success we have had in solving this problem of accident prevention while performing the work, and is the result of company rules, and safety education, and the fine spirit of co-operation on the part of the employes in carrying on the company work, with a maximum of safety and a minimum of annoyance to the public.

It must be remembered, too, that a force of linemen, constructing or repairing a line, can not always apply the safety measures that they know would afford the greatest protection to the public. While work is being done on poles, extreme care is necessary to avoid the dropping of material or tools on the heads of passers-by. The safest method would be closing off the sidewalk in the vicinity of the

poles on which men are working, but this can seldom be done, and only too frequently pedestrians seem to insist on walking within the danger zone in spite of warning signs and the caution of guards.

Then again there are times when the rule of the Company is violated by a "take-a-chance" foreman, or worker and tools and material are carelessly handled, and the receptacle for hoisting tools and material, is not used, to the danger of all below.

The transportation department of the larger electric company, brings, with its size, the usual problems of transportation in using the highways of the cities and towns. Our own Company has over two hundred vehicles operating on the streets of Philadelphia and vicinity, and has accomplished much toward solving the vehicle accident problem, through the Department Safety Committee composed of the operators and drivers. They thus know the Company desires that traffic rules and regulations be strictly adhered to, and that safety and caution are considered far more to their credit than speed and reckless desregard for the public.

Operators who violate the city regulations and get into difficulty are required to pay their own fines. As a consequence they do not take chances, the result being safety for the public, the employe and for the company property.

We have intimated that good work is accomplished through the safety organization which covers all of our departments. Indeed it is through these committees that practically all accident problems of the Company are worked out, and through this plan we have accomplished the good work of the past few years. The success of any committee plan lies not so much in the novel features, as in keeping up the interest in the work by bringing in new members from time to time, and in holding the former committeemen as an active body. Our plan is neither new nor cumbersome; it is simply effective, and is briefly as follows:

1. A Central Safety Committee of 13 Department Heads.
2. Department Committees of 6 men, in every Department of of service.
3. Literature to Department Committees outlining the importance of the work, and the importance of their active interest and the necessity of reports to Central Committee.
4. Cards identifying members to their fellow employes are issued to members of the Department Committee.
5. Safety First buttons to every one, and of a quality worth wearing.

6. Fobs to all Department Committeemen, bearing title "Safety League" and the employe's name. With the fob each member receives a letter bespeaking his continued active work in accident prevention, and in training all other employes in safety methods. This retains their active support when their term on Committee has ended.

The electric industry has long since acquired the habit of cultivating a cordial co-operation with its employes by establishing the best possible working conditions and by various phases of helpful welfare work, to all of which the employes have responded with a much appreciated spirit of loyalty, and it is to this fine working together that the accident problems of the companies are being minimized.

Does it pay? It certainly does. Pays largely to the men in maintaining their physical fitness and continued ability to do a whole man's work and receive compensation on that basis. And it pays the men financially, as the elimination of wasteful methods and practices, must, through the proper application of resulting operating efficiencies, reach both the worker and the public.

In considering the accident problem of the electrical companies, our discussion would be incomplete, if we failed to make reference to the working of the Compensation Act as applied to the electrical companies. The problems of our Company have never been how to compensate accidents, but rather how to minimize or eliminate them, considering the subject purely from the humanitarian viewpoint; but realizing, as every one must, that the immediate complete elimination of accidents can not be accomplished, due to mechanical frailties, as well as to the human element of the miscellaneous divisions of a large electric company, it has always been our practice to pay liberally to a fund from which injured employes received full pay. The passage of the Compensation Act of 1915 necessarily modified our method of compensating for disability due to accident, and the Company is, of course, following the strict letter of the law.

The Compensation Act has been so admirably worked out in its details of administration, and with such a spirit of fairness, that it has not added any great burden on the electrical company, that it does not willingly assume.

Speaking for the electric power companies generally, we are confident that, without exception, they are in thorough accord with all the splendid work of the Department of Labor and Industry, and will continue to co-operate with it in bringing about the highest possible industrial standard for Pennsylvania.

CHAIRMAN McCALEB: We shall continue with the discussion of the Accident Problem of Electric Companies and hear next from Mr. James S. Meade, Local Union No. 98, Brotherhood of Electrical Workers, Philadelphia, Pa.

I take pleasure in introducing to you Mr. Meade.

THE ACCIDENT PROBLEM OF THE ELECTRIC COMPANIES.

By JAMES S. MEADE, Local Union No. 98, Brotherhood of Electrical Workers, Philadelphia, Pa.

MR. MEADE: Mr. Chairman, ladies and gentlemen, in consideration of the limited time at my disposal I had not time to prepare a paper. My duties in Philadelphia keep me very busy looking after general organization work and trying to build up the standard of electrical workers in that vicinity.

We are ready and willing at all times to co-operate with the electric companies of Philadelphia, both light, power, telephone, and otherwise, where the accident problem exists. Coming right down to brass tacks, it is entirely without my province to criticize the local power company inasmuch as there is no co-operation between them and our organization. If a member of our organization is found in the employ of the particular company I have referred to he is discharged. There is no standard rule that the men can not belong to the organization; nevertheless the animus does exist between the foremen and men. Where such a condition exists there can be no co-operation. That condition does not exist in other portions of the country. There are some places where there are agreements between the electric light companies and our local unions of the brotherhood. In such localities the accident problem is reduced to the minimum. We have not, up to the present time, as a general course, kept statistical information relative to accident data. However, we do know that the problem has cost us considerable money yearly, both in death benefits, and in sick and accident benefits. We realize the benefits of the various compensation laws throughout the various states but we would much rather have our men well and able to go to work and support their families than depend on the charity of the State. We believe that if the proper measures were taken to prevent accidents there would be less cause for concern. We know that there are rules formulated by various engineering societies and by various electric companies and we know that in a good many instances they do try to see that they are put through; but we also know that in a good many cases the breach of the rule is rather the

case than the observance and too much is left to the various foremen, too much is left to the various individuals, too much is left to chance; too many times men are sent into dangerous positions with the understanding that, "Well, you know what you are up against; if you don't go there you may quit; somebody must take the chance."

Regarding the Accident Problem of the Electric Companies, I would say, the Organization I represent The International Brotherhood of Electrical Workers, is ready and willing at all times to cooperate with the various electric companies throughout the country in reducing to a minimum the possibility of accidents occurring to employes and the general public.

And from time to time the matter is discussed in the meetings of our various local Unions, as well as at the Conventions of our International Brotherhood, and in the interim, through the columns of our official journal "The Electrical Worker and Operator."

Up to the present no statistics have been kept by our International Organization relative to accidents which have occurred to our members and which have resulted fatally and otherwise, however, this should be done, and arrangements to do so will no doubt be made part of our laws at our next Convention which takes place in Atlantic City next September.

We have found that the majority of accidents occurring to linemen have been through too little attention being paid to proper spacings at crossings between wires of widely different voltage and lack of regulation as to position of wires on jointly used poles.

By far the greatest number of accidents occur on circuits of 2300 volts, as the very high voltage lines are more carefully constructed and the proper spacing generally maintained. Eighty per cent. of the fatal accidents are on the 2300 volt circuits.

We have been working for some time with the Bureau of Standards at Washington, to have a National Electrical Safety Code adopted generally by the parties at interest, which, in our belief, will bring about the desired result.

I want to say that I have been fortunate enough to receive a copy of Bulletin No. 54, from Mr. Kennedy, which embodies the National Electric Safety Code, and I believe if this were adopted by the various states throughout the country and made mandatory, the accident problem of electric companies would be reduced to nil. I thank you.

CHAIRMAN McCALEB: I think you will all agree with me that one of the most encouraging signs of the times, as showing the interest of the employer, the interest of the public, and the interest of all in the matter of the safety of employes is that the large corporations have taken this matter up in a practical way. That development, as you know, has come within the past few years, and, as indicated by the very interesting and instructive talk of Mr. Herbert this morning, it has reached the point where they can say that it is bringing practical results and, although this movement may be inspired to a certain extent by the desire to reduce the number of employes in the hospital and keep down the size of the hospital, nevertheless it has a very decided humanitarian point and the corporations and large manufacturers certainly deserve credit for taking up the matter in the very unselfish manner they have and carrying it out regardless of expense.

I am led to make these few remarks by reason of the fact that the next speaker on the program also represents a corporation, the Bethlehem Steel Company, of South Bethlehem, and he, like Mr. Herbert, is a safety engineer of a corporation of that character.

We will now have the pleasure of hearing from Mr. George T. Fonda, Safety Engineer, Bethlehem Steel Company, South Bethlehem, Pa., on the Employer's Duty toward Accident Prevention.

MR. FONDA: Mr. Chairman and Ladies and Gentlemen, it was not my intention to confine myself closely to notes this morning, but during the last twenty-four hours several of our very good friends who are directly responsible for this very excellent conference have pressed upon me the importance of running according to schedule. There is a great deal to be said on the subject assigned me and in the comparatively short time which we have this morning it would be difficult to give you all the thoughts which some of the larger industries are working upon and therefore with your kind indulgence I will attempt to confine myself to manuscript which I have prepared in order to complete the subject within the time allotted. I also have two films of pictures which have a direct bearing upon what I have to say and I desire to get to that part of the program as quickly as possible.

THE EMPLOYERS DUTY TOWARD ACCIDENT PREVENTION.

By GEORGE T. FONDA, Safety Engineer, Bethlehem Steel Co., South Bethlehem, Pa.

A few years ago it would have been a simple matter to stand before an audience of this kind and expound a lot of possible theories, which perhaps had not been generally thought of, much less actually put into operation. I say that it would have been easy a few years ago, but might rightly add, if, a few years ago it would have been at all possible to get together such a gathering as this. There has been a most commendable "change of spirit" on the part of Industry during the past few years and let me say that Commissioner Jackson,

backed by this great Commonwealth of Pennsylvania, is certainly deserving of much more than ordinary notice for the active part which the Pennsylvania Department of Labor and Industry has taken in forwarding a great propaganda in the interest of Accident Prevention.

It is most likely that practically all of you in this audience to-day are yourselves much absorbed with your own Accident Prevention Problems and know your duty as employers far better than any outsider can tell you. The task assigned to me as my part of this well rounded program, is difficult, but I hope to be able to point out to you certain features which in my experience have been worth the effort and which have produced results, which after all is the acid test.

The employers duty toward accident prevention is only one side of a most vital problem, the other side of which is to be discussed during another session of this Conference. In my mind the duty is no greater on the part of the employer than it is on the part of the employe and the converse is just as true. I will agree that there are possibly different reasons on one side as against the other, but the resultants of these forces are exactly equal. The duty of the employer must be fully realized at the beginning, otherwise, there can be no accident prevention in a given industry. Perhaps you will say, that if this is true then the duty of the employer is certainly the most important, put I say to you, the beginning of such a propaganda, while it is indeed important, would do little if the employe could not be made to see his duty in its fullest importance. The beginning would be a miserable failure and productive of little or nothing, if this had to be the full extent of our effort.

Accident prevention from the employer's standpoint may be considered by some as a duty. There are others, however, who may never be convinced that it is their duty to prevent accidents and to those I would say, it is not a duty—it is a necessity. The employer who ignores the personal element in his business to-day, is doomed eventually to failure and as business competition continues to increase, the more is this true.

The prevention of accidents is only one small part of a great industrial problem—the conservation of the human machine. It is difficult to understand, why the necessity for such conservation has not been more generally recognized by industry long before this, but it is most commendable to note the tremendous strides which have been taken in such a compartively short time. Employers all over this great country are alive to the general situation and they are in many cases, doing much more than their duty.

The conservation of human life and limb I contend is the duty of every employer and he should put forth every effort to further this object in so far as he is able. The employer, as I have stated, must make the start and having made the start, I ask you to show me any group of workers in this country or any other country who will shirk their end of the responsibility. Perhaps, we all know of a few isolated cases, which would seem to contradict such a statement, but show me any considerable number of workmen, who would make a business of getting injured even to a slight degree. It is contrary to human nature and very few would attempt to give this as a reason for industrial accidents.

Let us not forget that the workman is placed in industry to produce. This is his first function and if he fails at his task, what will become of him? The average workman is ever mindful of the particular part he is taking and of the fact that his very existence is dependent upon his ability to do his work and do it right. Many times the faithfulness and conscientious endeavor of an employe is the direct cause of his being injured and here it is clearly the duty of the employer to promote safety to such an extent that the workman will know that it is part of his job to turn out the work without injury to himself for any one else. This is clearly the duty of the employer and can not possibly be denied as being fundamental. The *esprit de corps* is bound to have much to do with the ultimate success of any propaganda in the interest of accident prevention in any given industry and this fact is quite generally recognized.

Workmen, I have maintained, do not intentionally get hurt, ignorance or carelessness describes the cause of not less than 90 per cent of our industrial accidents to-day and here again the employer can not overlook his direct responsibility.

Education, in any phase you care to look at it, is the first and foremost duty of every employer in the promotion of accident prevention. It has been said many times, the plant must be safeguarded before you can do much preaching and I need not dwell upon this particular point, because no one would ever deny the psychology of this statement. As a matter of fact, there are very few employers who have not been spending thousands of dollars on safeguards and will continue to do so just as long as they can find unguarded machines inside of their plants. Strange to say, the education of workmen in its relation to accident prevention has not been taken up so generally. Many employers have recognized the full value of educational work of this kind, but have been at a loss to know how the situation can best be handled. This condition has existed more particularly in the smaller plants as a rule, these plants having found it difficult to organize the work. It seems to me that a co-operative

movement on the part of the various interests in any given section, would satisfactorily solve this problem, and in view of the success which has been experienced among the larger industries throughout the United States, it would appear that a movement of the kind mentioned would deserve careful consideration.

Education, the keynote to many economic problems, certainly stands out above everything else as an activity which must be recognized by the employer not only as a duty, but as an absolute necessity. The foreigner in our industries is the first individual to be reached. He knows nothing of the whirl and rush of American industry and with it all, he is unable to speak or understand our language. A study of the accident statistics of the Company which I have the honor to represent shows that from 60 per cent to 70 per cent of all workmen losing two days or more as a result of injury, are foreign born. If you have not verified this fact to your own satisfaction I would advise you to do so. A situation of this kind must be met, otherwise little progress can be expected and it is certainly the duty of the employer to see to it that proper consideration is being given to this most absorbing question.

There are a number of things much more easily accomplished than successfully teaching the English language to foreigners, but in the majority of cases you will find these men most eager for this knowledge, once you have made them understand what it is all about. In South Bethlehem, we are conducting free evening schools for foreigners and there are to date over 1,000 workmen, enrolled, including twenty-eight (28) different nationalities. These men are not forced to attend these classes, but are urged to do so for their own good, and the Bethlehem Steel Company feels that any effort or money expended along these lines can only be productive of the best results.

The next step in any educational safety campaign, is carefully organized shop committees appointed to serve for a definite period of time, after which part or all of these committees are replaced by new men. This is not a new suggestion to anyone, but the handling of these committees has all to do with the success or failure of a most valuable part of the work under consideration. I have heard it stated that shop committees were not of particular value any longer because their usefulness could not last beyond a very limited period of time in any plant that was completely safeguarded, etc. Such a statement simply proves that the work has not been properly organized and a valuable opportunity is being lost.

I trust you will pardon a reference here to the organization we have worked out in connection with the activities of my own Company. We have organized departmental Safety Committees in each Department and in a number of instances these committees are

made up entirely of foreigners. These committees are started out under careful instruction and are taught to look for dangerous conditions in their respective departments which are reported as a result of Departmental Inspections made periodically by these committees. In addition to being taught to look out for dangerous conditions and eliminating the same, these committees are thoroughly drilled in first aid work and as a team are required to enter the inter-department meet held the latter part of the summer of each year. The winners of the first three places in these meets are given prizes well worth the effort and a great deal of interest has been stimulated through our annual meets. This year, for example, the winning team was taken on a trip to Boston to one of the games of the World's Series and was fortunate enough to see the only fourteen inning game ever played in a World's Series. You can well imagine that this particular Departmental Committee found out that "Safety" was well worth while and it is this sort of stimulation that makes for success in the work and which of course is in direct proportion to the employer's appreciation of the services rendered by the Departmental Committees.

The constant changing of these committees must gradually change the atmosphere of the entire working force and the effect will be productive of good results. The work we have been doing at Bethlehem has been most successful and in the face of great odds with a considerable number of "green men" being employed, we have had a decreasing accident rate even including the last fourteen months.

I am prepared to convince you that we have made a success of our educational work as developed through Workmen's Committees and in a few moments will show you motion pictures of our second annual meet, which was held on September 30th, last.

Just another thought in the matter of education as affecting injury to workmen. We should indeed like to feel that accidents would no longer occur, however, we must admit that such is not the case and more or less frequently there is an unfortunate accident. In many cases a rather slight injury almost causes a death or at the best, causes much anxiety over a period of weeks and sometimes months. The injured is lacking in the necessary vitality to convalesce quickly and here, education again, can help the general situation. A filthy home and an unhealthy body are indirectly the cause of numerous accidents and if the problem is to be attacked from all sides these facts can not be overlooked. Where the employer has seen his duty in its fullest sense, it has been found that this duty toward accident prevention has led into many byways, but the outcome in every single instance has proved the value of the effort and few employers to-day are attempting to side-step their known responsibilities.

I was traveling in an automobile through a certain section of Jersey a few days ago where some of the good roads were significant by their absence. The road I was compelled to take was being repaired and it was barely passable and no more. On the left of the road there was a trolley track and as I looked ahead wondering how far I would have to travel on this choice piece of road, I saw, what appeared to be a very young boy struggling with something along the track. As I approached the youngster, I was able to see that the little fellow was about five years old. He was busily engaged trying to roll a hoop along the top of the trolley rail. He was most persistent in his efforts, but needless to say the task was too great and he could not succeed. The little fellow had certainly picked out the most likely place to roll his hoop, at least as far as I was able to observe, but the combination of hoop and rail would not work out.

It struck me several times as I bumped along that memorable piece of road, that the true appreciation of the employer's duty in the prevention of accidents is the preparation of the smooth road over which the hoop can be rolled in perfect ease. It is really the foundation work, the preparation of the way, which is so essential and it is unquestionably the duty of every employer so to function. The employes will be glad to roll the hoop if they are given the proper opportunity and much wasted energy and general discontent will be avoided if they are not compelled to roll it on top of a "trolley rail."

CHAIRMAN McCALEB: That closes the formal program of this morning, as far as papers are concerned. I think I voice the sentiment of all present in saying that not only have the addresses been entertaining but also instructive and that we tender a vote of thanks to all those who have been kind enough to come here and tell us what they have been doing along these lines.

Now, we still have a few moments left and I will call on Mr. Lew R. Palmer, Chief, Bureau of Inspection, Pennsylvania Department of Labor and Industry, to open the general discussion.

MR. PALMER: Mr. Chairman, I think the thing to do or say at this time, in view of the fact that we have had such excellent papers on the program this morning and also in view of the fact that the papers for this afternoon are of a like character, is to postpone the discussion until that time and include any discussion or general discussion of all the papers this morning. I therefore take the liberty, as a member of the program committee, to move that we adjourn to meet promptly this afternoon and start the discussion, although I don't believe I can be with you as I have to preside at another meeting.

The motion was seconded, put and carried, whereupon at 12:30 p. m. the Conference adjourned.

WEDNESDAY, NOVEMBER 22, 1916.
AFTERNOON SESSION AT 2 O'CLOCK.

Chairman, H. H. WHEATON, Collaborator, Bureau of Education, United States Department of Interior, Washington, D. C.

CHAIRMAN WHEATON: The theme of this afternoon's meeting is, in general, how to reach the individual in safety matters. By way of introduction to whatever the speakers may have to say I want to make a few remarks about the methods which are being used by the Bureau of Education to reach the individual in an educational way and in individual organizations.

During the last two years we have been conducting in the Bureau—and this bears upon safety as I will show in a moment—what has been called "An America First Campaign," which is an Americanization movement. This movement is important to industry and to the workman, because a man who speaks English is less likely to have an accident in a hazardous employment than one who does not speak the English language. A man who speaks English generally works himself up in the scale of wages and gets better pay, and the man who speaks English is able to talk with his employer and with his fellow workers and thus acquaint himself with the industrial system of this country, with the business methods and customs of our industrial establishments, with the safety rules and regulations that obtain in those establishments; in other words, the man who speaks English makes a much more efficient worker and a much more efficient citizen.

In order to reach the non-English speaking immigrant the Bureau of Education has conducted this "America First Campaign" I have mentioned, to stimulate the attendance upon night schools of non-English speaking immigrants. In this campaign we are enlisting the co-operation of every kind of organization, industrial establishment, school official, etc., which comes in contact in any way with the immigrant and with the immigrant employe. We have organized a National Committee of one hundred to carry on the campaign. We have, through the United States Chamber of Commerce and about 257 local chambers, conducted local campaigns. We have co-operated with labor unions, with the General Federation of Women's Clubs and with one hundred and one odd organizations interested in the welfare of the immigrant, and we have co-operated with the industries of the United States in this movement. In reaching the individual we have utilized and endeavored to put the material in such form that it would be read first, in the foreign language by the foreign speaking worker and then in English in such simple terms that the man of foreign birth who had learned to speak some English could understand it. We have utilized the columns of the foreign language press in reaching the foreigner. We have used circulars and bulletins and every kind and means of publicity which are placed in the hands of the immigrants through industries, through private schools, etc. This question of reaching the individual in any movement is absolutely at the foundation of the movement. If you can not get the individual interested in the movement, in carrying out its purpose you will ultimately fail in carrying forward the movement or thing and consequently it is to the individual that you must appeal in safety education. It is to the individual, upon the individual, that you must rely, and instill the habit of care, the instinct of carefulness, if you may put it as an instinct. You must put in the mind of the individual as a child, as an adult, the idea of being careful in industry, careful on the streets, careful in every walk of life. The speakers this afternoon are going to speak upon some of the phases of reaching the individual and reaching especially the individual worker, not only in industry but outside of industry, having in mind that in so doing, the most effective welfare and safety work will be accomplished

because you will be working from the inside out rather than from the outside in. You will be stimulating the individual to care for himself, which is much more fundamental than the state or the government or industry or any organization caring for the individual. If you can instill in the individual a thoughtfulness for his own welfare and get him to act upon it in a thoroughly sane and reasonable manner you will have gone far in solving many of the industrial and social problems we are trying individually to do and you will accomplish results. Work from the top down and from the mass to the individual and your sociological process is reversed and you meet with many difficulties which are almost insurmountable.

The first speaker is Mr. C. W. Price, Field Secretary, National Safety Council, Chicago, Illinois. Mr. Price has been associated for twelve years with the International Harvester Company and can speak from the standpoint of one having experience from the inside of industry. He has been associated for five years, after the termination of his association with the International Harvester Company with the Wisconsin Industrial Commission where he has carried on an extensive educational campaign in co-operating with that Commission and under its supervision. Mr. Price will endeavor to show you some of the ways in which organized safety campaigns may be carried on within the establishments and in schools to reach the individual. He will endeavor to show you how industries and schools may reach not only the English speaking American workmen, but the foreign speaking workmen as well.

I therefore take great pleasure in introducing to you Mr. Price.

MR. PRICE: Mr. Chairman, Ladies and Gentlemen, at the four National Congresses which have been held by the National Safety Organization it has been our custom to conduct a general round table and at that round table it has been our custom always to go over the old familiar story, very, very familiar to safety men who have been in the game six or eight years, in regard to how to organize a plant in order to get the workingmen really with you; and we have done that for this reason, that we have found in our Congresses that one-half or one-third of the five hundred men who attend those round tables are only slightly familiar or not at all familiar with the simple methods that have come to be recognized as the standards by all the companies which have obtained good results in reducing accidents. With that thought in mind Mr. Palmer and the committee have asked me this afternoon to repeat practically that old, familiar story that I know many of you have heard many times and many of you know from your own experience, and that is my job, Mr. Chairman, and I am going to do the best I can.

STANDARDIZATION OF SAFETY COMMITTEES AND SAFETY COMMITTEES' WORK.

By C W. PRICE, Field Secretary, National Safety Council, Chicago, Ill.

To my mind the four big facts which stand out in the experience of the Safety First movement, now barely ten years old, are these:

First: We have demonstrated that 75 per cent of all industrial accidents can be prevented; numbers of hazardous industries have reached this figure.

Second: Progressive business men have found that safety pays good dividends on the investment, and therefore has come to be recognized as indispensable to efficiency.

Third: We have learned that not more than one-third of the reductions which have been made this far in accidents, was accomplished, or could have been accomplished by means of mechanical guards; two-thirds has been accomplished by educational methods, by reaching the men on the job and winning their interest and intelligent co-operation.

Fourth: We have found from experience that the way to interest the workmen in safety, to really get them with you on the proposition, is to give them an active part in promoting safety; give them some recognition and responsibility. This has been accomplished through workmen's inspection committees.

I believe it is generally conceded that the idea of workmen's inspection committees originated some eight years ago with Mr. R. J. Young of the Illinois Steel Company. From this plant it was adopted in all of the plants of the United States Steel Corporation, and since this, nearly all companies which have taken up safety work have adopted the methods which were worked out in this corporation.

The organization of a workmen's safety committee is very simple. In plants having over three hundred employes, it has been found convenient to have three rank and file men selected from each important department. In smaller plants, one committee of three to five men can cover the entire plant.

In organizing a workmen's committee, the following points are important to keep in mind:

1. The members of the first committee should be selected from among the older men in the factory,—men who are well-known and respected by the workmen.

2. These men should serve from one to three months. It is well to appoint the members of the first committee so that their terms will not expire on the same date.

3. These men should be appointed by the foremen, and great care should be taken to instruct them in regard to their privileges and duties. They should be impressed with the fact that the company is anxious to make the plant safe, and that the more suggestions they make, the better. Their suggestions will receive careful consideration. They should be instructed to give special attention to dangerous practices and should be authorized to warn workmen found doing dangerous things.

4. The committee should make an inspection at least once a month. In plants where the hazards are great, it is found necessary to have an inspection once a week. The committee should be given time off with pay to make these inspections and to prepare their report.

5. The reports of the committee should be made in writing and should be submitted to the superintendent or to the central safety committee.

6. The committee should be allowed to make an investigation of all serious accidents and to prepare a written report on the same.

7. Notice should be posted on the bulletin boards instructing the workmen to make suggestions to the workmen's committee. This will help to foster confidence in the work of the committee.

8. All suggestions made by the committee should receive very careful consideration by the management. If it is found that a suggestion can not be carried out, the matter should be gone over carefully with the members of the committee so that they will not misunderstand the motive of the company.

9. The workmen's committee should be encouraged to furnish material and to make suggestions for the bulletin boards.

I have made a careful investigation of a number of plants in which workmen's committees have been properly organized, and in every case they have been successful, and a surprising awakening of interest among the workmen has immediately resulted.

When workmen are given responsibility and an active part to do, they feel that they have been recognized and they at once take a new interest and a new attitude toward safety work. It is an old and familiar principle that the way to interest a man in anything is to give him something to do—give him some responsibility.

The experience of all factories in which workmen's committees have been organized, reveals the fact that from 90 to 95 per cent of the suggestions which the workmen make are found to be practical and are accepted by the company.

As the work progresses, the workmen's committee more and more reports cases of carelessness and ignorance on the part of the workmen, and less and less, points of danger to be covered with guards.

The eight hundred workmen serving on the committees of the Chicago & Northwestern Railway Company during the first three years of the safety work reported more than 6,000 points of danger; all but 200 of these suggestions were found to be practical and were accepted by the officers of the Company.

In the work of inspecting their departments and investigating accidents, the workmen on these committees learn what the manage-

ment can not tell them, and make them believe, namely, that two-thirds of the accidents are beyond the power of the employer to prevent, and must be prevented by the active co-operation of the workman.

When the workmen on these committees, through their experience, become interested and become intelligent in regard to the causes of accidents, they become the best teachers and boosters for safety among the workmen, and can do more to convince the workmen of the honest attitude of the employer, and especially in regard to the obligation of the workmen than anything which the superintendent or foremen can say. Mr. R. J. Young of the Illinois Steel Company, stated that after eight years experience with workmen's committees, he found that the interest increased rather than decreased.

CHAIRMAN WHEATON: Mr. Price has told you some of the ways of reaching the individual workingman through safety committees and the proper standardization of their work. Mr. C. B. Auel, Director, Standards, Processes and Material, Westinghouse Electric and Manufacturing Company, East Pittshurgh, Pa., will tell you how the plant with which he is connected, reaches the individual in treating The Accident Problem of the General Industries.

I therefore take great pleasure in introducing to you Mr. Auel.

MR. AUEL: Mr. Chairman, Ladies and Gentlemen, following what seems to be the custom at this Conference, I have prefaced my paper with a very complete apology embodying not only the excuses of yesterday's speakers and absentees, but revised this noontime to include this morning's speakers as well. However, I shall ask you to hear with me while I skip it and proceed with the reading of the paper.

THE ACCIDENT PROBLEM OF THE GENERAL INDUSTRIES.

By C. B. AUEL, Director, Standards, Processes and Material, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

In these times of war, famine, pestilence and sudden death, the single crop which continues to flourish the world over, is the pessimist and one can hardly be blamed for saying "Is it any wonder?" On all sides the waste of the world's resources, both human and material, continues and with little apparent abatement.

Consider for a few moments the material waste and let me cite in this connection two illustrations I have had similar occasion to use, both dealing with world-wide commodities.

One of these has to do with coal and is therefore, of even more importance to the people of this State than to those of most communities. Commencing with the mining of the product, authorities say that twice as much coal has been lost as has been brought to the surface and sold; that is, it has been left in the mines either as pillars or because of cave-ins, etc. Of the coal sold perhaps the larger portion is used in the generation of steam so let us see what happens to this part of it.

The steam boiler and engine have been about two hundred years in their development, until to-day they are deemed to be as nearly perfect mechanisms as they are likely to be, both in design and in construction. Now we know that every lump of coal has stored within it a certain amount of energy which can be released by burning the coal under a boiler, and in this way made to do useful work in the generation of steam. The steam in its turn can be made to drive an engine, the engine to turn a dynamo and thus to produce electrical current, and finally the current can be made to perform many kinds of work, as for instance, to light an electric lamp. Let us assume that the coal is beong used in one of our modern power houses where efficiency is the watchword. Notwithstanding this fact, there is a loss of 1 per cent of the coal itself due to its falling through the bars of the grate before it is burned at all, while upon burning there is a further loss of 22 per cent of the resulting energy from heat escaping up the chimney and still another $10\frac{1}{2}$ per cent on account of radiation of heat from the boiler, the engine, and the auxiliary apparatus. Next there occurs a loss of 57 per cent. more in the steam as it is exhausted from the engine, thus leaving but a little over 9 per cent available for useful mechanical work. (With the aid of an economizer in the flue and other appliances, some of this waste may be prevented, but not enough to increase the figure given to more than 15 per cent). By making the engine drive a dynamo, thereby generating electric current and conducting this electric current through copper cables and transformers to an electric lamp, there occur still further losses of about 2 per cent, leaving say 7 to $7\frac{1}{2}$ per cent of the energy originally in the coal for use in the lamp. Choosing now the most generally used lamp, the incandescent type, 95 per cent of all of the energy put into it is consumed as heat, 5 per cent producing the light; that is to say, 5 per cent of the last $7\frac{1}{2}$ per cent or one-half of 1 per cent of all the energy in the coal actually produces the light. And this mark you, without counting the fact that for every ton of coal brought to the surface, another ton is wasted in the mines. Yet experts tell us the world's supply will be exhausted within one hundred years.

Compare this with the firefly which scientists state produces the most economical form of light known, having an efficiency of over

99 per cent, and it will be seen at once that the results of man's efforts, even when apparently well directed, are small at best alongside those of nature.

If such is the net result where study has been given to the problem, what is to be expected where either the effort has not been properly directed, or where practically no study has been given.

An instance of this kind is the lumber industry now rapidly diminishing in volume the world over, due not only to wasteful methods in cutting and using, involving as they do, a loss of about 66 per cent of all timber cut, but to failure to take proper steps to replenish the supply. Think of it—of every tree cut down, two-thirds of it wasted, approximately one-third being left in the forest as tops and branches and stumps that are cut too high, and one-third lost either as sawdust, ends, and trimmings in the sawmill or subsequently as shavings, edgings and defects in manufacturing.

With facts and figures like these confronting us with respect to the waste of material resources, is it to be expected there will be found any markedly different conditions in the conservation of human resources?

Investigation shows, as might be surmised, a similar deplorable waste. Our own Department of Labor and Industry estimated that the disabling accidents in Pennsylvania for 1916 would reach 300,000 as compared with 62,000 for 1915. These figures are scarcely comprehensible in themselves but when one takes them as a basis and attempts to calculate the loss in time, and therefore in wages to the workers, in loss of output and idle equipment, and therefore, of capital to employers, and the untold misery inflicted on all concerned, the results are simply beyond belief.

However bad conditions may be, and there is no denying it, the speaker takes encouragement from the fact that such things as these are commencing to be known and studied by the great masses of people. And if you confront me with the example of the waste of energy in connection with the steam engine and the electric lamp, as showing how little has been done even with a knowledge of conditions, to this I am optimist enough to reply that the progress made, however small, has all been accomplished within the last 200 years; and, if this short period of time be measured against the length of time mankind was compelled to use as their means of obtaining light, such crude things as dried birds or fish stuck into forked sticks, bundles of rolled bark or fat pine knots and the like, the rate of progress will be seen to be tremendous. It must be borne in mind therefore, that it is not actual progress, but the rate of progress that should be considered in these matters.

Turning more nearly to a discussion of the subject of this paper, namely The Accident Problem of the General Industries which is

but another name for the wasting of our human resources, the speaker desires to consider the Works with which he is connected, the Westinghouse Electric & Manufacturing Company, simply as one of the great number of industrial concerns that is giving the most serious study to this problem, and to discuss several phases of it, which it is believed are very much like those confronting the industries in general.

Not having any standard to be guided by in the beginning, it was necessary for us arbitrarily to group our accidents into certain classifications and these have been adhered to for the past several years with the following results:

	1913.	1914.	1915.	1916. 9 Mo.
	Per cent.	Per cent.	Per cent.	Per cent.
Carelessness of injured,	21.4	23.5	22.5	22.9
Carelessness of fellow workmen,	6.4	4.8	3.3	4.6
Flying objects,	14.8	14.1	18.6	20.7
Handling sheet material,	3.8	4.4	1.2	1.5
Slipping and falling,	3.8	5.3	5.0	4.4
Ordinary working conditions,	15.1	19.2	14.8	11.4
Hand tools used by injured,	9.4	6.8	7.7	5.7
Lifting work in or out of machines,	3.6	2.4	3.4	4.9
Electric shock and flash,	2.6	1.9	1.7	1.0
Burns, not electrical,	2.3	.8	2.3	1.9
Handling miscellaneous material,	8.9	12.1	14.2	14.3
Defective material,	2.4	1.2	.9	.9
Miscellaneous,	4.5	3.5	3.0	5.8
Want of safeguards,	.3	.1	.4	.03

In looking over these statistics two features are especially notable. These are first, that year after year accidents due to carelessness of the injured stand at the head of the list, and second; that accidents due to the want of safeguards stand at the foot. It may be stated further, that if the classifications had been made in any but the most conservative way, the percentage due to carelessness would undoubtedly have been very materially increased, because accidents under the other classifications were so placed without any attempt to ascertain if some of them were not really due to carelessness in the first place.

It might be well to mention that some of the accidents classed as due to carelessness could really be classed as the result of employes misrepresenting their experience on being hired and therefore, being given work for which they were hardly qualified. This sort of thing of "putting one over on the boss" and "getting away with it" is actually looked upon by those who do so, as a real mark of ability, an actual asset of which they boast later to their fellows.

Our own experience along these lines is, we believe, conservatively in accord with the experience of most other concerns; although the New York Edison Company in a recent publication stated that 82 per cent of their accidents were due to the carelessness of the injured, 4

per cent to the carelessness of the fellow workmen, 5 per cent to outside agencies and 9 per cent to the Company. Admitting then that our figures represent average conditions, are we to assume the small percentage of accidents due to the want of safeguards, has resulted from the present safety laws? But such can not possibly be, at least in this State, for there has been no appreciable change since the laws went into effect as a glance at the statistics will show. And what may be asked have the laws in this or any other state done, either to reduce or to penalize carelessness on the part of the injured, the greatest cause of accidents?

As yet nothing—in fact as far as the laws are concerned, they do not admit that such a cause of accidents exists.

The speaker has no intention of decrying the necessity for safety laws, realizing that were it not for these laws, conditions would undoubtedly be worse than they are, but it certainly looks as if steps other than those already taken or planned, are required if appreciable progress and such as we should all like to see, is to be made in the solution of this problem.

While laws are a recognized necessity and should in general be looked upon by all right thinking people rather as rules formulated out of a large experience for our proper guidance, there can be no excuse for the present multiplicity of laws in the various states covering not only safety but its ally, accident compensation.

A typical example illustrative of the situation was given, if I remember rightly, in this very building at an earlier conference, by one of the speakers in connection with a discussion on the recently adopted boiler code, who stated that a boiler built in Detroit where it would operate satisfactorily, could not be operated at all in Philadelphia and would positively blow up in Boston. It goes without saying, that there must be something radically wrong with the inhabitants both of Philadelphia and Boston, to have such an adverse effect on a well-behaved Detroit boiler. I think it only fair to state that those who have been following the work of the Department of Labor and Industry of this State, have noted with considerable satisfaction the effort being put forth to make the best of a complex situation and to adapt to our needs wherever possible, the work of other states instead of hewing another path.

In the matter of accident compensation, 33 states have already adopted the principle and there are accordingly, 33 sets of laws (not to speak of the amendments) the output of at least 33 sets of lawyers and 33 or more legislatures; and, all industries doing an interstate business are now trying to keep up with them. This condition, of course, results from our dual system of government, National and State, but for rank inefficiency, can anything outrank it

or will some one attempt to defend the ridiculous situation of 33 sets of laws on the same subject, by saying that conditions are so different in the various states as to require different treatment? Such might have been true in the days of the oxcart but not in these times of interstate travel and communication which have swept away practically all barriers between communities, making this country more nearly like a single commonwealth. As a result of such laws, we find the law observing citizens of one state are actually violators of the laws in other states. We find further the cost of the same accident varies with the place of its happening, if in New York one price; if in New Jersey another; if in Pennsylvania another and so on, so that every one should carefully consult all of the laws on the allied subjects of safety and accident compensation before deciding on the best place for an accident to occur to himself.

To make the idea to be conveyed a little plainer, let us assume two workmen from New York and Pennsylvania respectively cross the boundary line between their States, the Pennsylvanian entering New York and finding a job and the New Yorker entering Pennsylvania and likewise finding a job. In due course, they are involved in accidents while at work, resulting in the same disabling injuries. The Pennsylvanian in New York will receive 16 2-3 per cent more compensation than the New Yorker in Pennsylvania. There may be, of course, some one unkind enough to say that this represents the difference in value between a New Yorker and a Pennsylvanian. But if these workmen upon recovering from the first accident go back to their respective States to work and should be so unfortunate as to meet again with the same kind of accident, the New Yorker this time being in New York and the Pennsylvanian in Pennsylvania, the New Yorker would then receive 16 2-3 per cent more than he did the first time he was hurt and the Pennsylvanian 16 2-3 per cent less. The same unkind party may again remark that as far as the Pennsylvanian was concerned, accidents were getting to be a habit with him and he should not be encouraged to have them, so that 16 2-3 per cent less than the first time would be about right. And thus it is, the country over, the prices of fingers, toes, eyes, arms, and legs fluctuating with the locality. The need for standardizing our safety and accident compensation laws certainly seems to be indicated.

As to remedial measures, what can the average industrial concern do to help prevent accidents? There are a number of things, the most obvious being the installation of safety devices wherever needed, as well as the less obvious, but equally important one of establishing patrols to see not only that guards are maintained in service after installation, but also that employes are handling themselves and their tools in the proper manner. Another is the examination of all

applicants for positions, more especially as to their mental fitness and experience for a particular work. Such examinations can be made productive of great good, both to the employer and the applicant if conducted on broad lines and will result in fewer instances of attempting to fit square pegs into round holes with the consequences that usually follow.

In our Works, however, we go rather further. Applicants for positions are first carefully interviewed by the Employment Department as to their suitability for the positions applied for; but in the event of doubt, effort is made to see if they can be placed in any other positions which may be open; in other words, if any applicant sizes up well, no stone is left unturned to place him properly before letting him go. And the same spirit is carried on within the Works; if an employe is thought capable of better work in one department than in another, effort is made to transfer him; still further, no one can be discharged except for cause and then only after review by departmental heads.

With respect to the physical examination of employes, little has as yet been done, though the present law practically forces the employer to keep out those either unfitted for the work themselves or whose presence would be a hazard to their fellowworkers.

However, certain data apart from the operation of the Compensation Law have been compiled, this in connection with a Relief Department, established by our Company in 1907, for the payment of benefits to employes who are members, in the event of their meeting with disability due to sickness or to accident while off duty.

Membership is confined to employes under 50 years of age and involves the payment of certain comparatively small dues as well as the passing of a physical examination. If he has a defect, an employe is still allowed to join providing he signs a release relieving the Relief Department of obligation to him in case of disability due directly to his defect. About two years ago the Company introduced a Service Pension plan to which all employes are eligible upon reaching the age of 70 years and after 20 years of service, providing they are members of the Relief Department. In order not to debar anyone at the time of its inauguration from qualifying, all restrictions were temporarily set aside and employes were permitted to join the Relief Department regardless either of their age or their physical condition. Furthermore, the twenty year feature of the Pension Plan was reduced to ten years for the benefit of those employes already old in the service. (In passing it may be mentioned that the employes who have been in the Company's service over 20 years, now number between 500 and 600 and there are at work to-day several over 70 years of age, all of whom would resent any suggestion having in view their retirement on pension owing to their age).

It is almost needless to say that a very large majority of the employes have joined the Relief Department, perhaps a better recommendation than if every single one had, as it is quite evident in consequence, that there is no compulsion about joining.

Upon a certain date of which due notice was given, the restrictions which as stated had been temporarily set aside, were again put in force; namely, that employes to qualify for membership in the Relief department must thereafter be under 50 years of age and must pass a physical examination. As in the original regulations, a defect does not necessarily debar an employe from membership providing he will sign a release relieving the Relief Department of obligation in the event of disability due to the defect.

Such defects as have been encountered during the past year or two, have been classified with respect to males as follows:

CLASSIFICATIONS.	PERCENTAGE.
Hernia,	44.5
Teeth,	.3
Varicose Veins,	3.3
Eyes,	36.3
Defective generally,	4.6
Refusal to be examined,	.8
Hearing,	.5
Amputation (legs, fingers),	4.1
Nerves,	.3
Venereal,	4.1
Hydrocele,	1.8
	100.6

It will be noted that there are no instances of weak heart or lungs; this is not necessarily because there are none among those examined, but because our facilities are as yet, such as to prevent suitable investigation being made for these defects.

Among the females, the defects classify as follows:

CLASSIFICATIONS.	PERCENTAGE.
Eyes,	31.7
Malnutrition,	28.8
Vermin,	5.8
Heart,	5.8
Lungs,	5.8
Goitre,	2.9
Suspected pregnancy,	2.9
Nose and throat,	14.4
Hernia,	1.9
	100.00

Since the inception of our Relief Department there has been observed an increasing tendency on the part of employes to consult the medical staff for advice and while no provision was made for this feature in the original plans, it seems to have so much merit, as a preventive measure, not from accident perhaps but as an aid in keeping the employe on the job, that it is hoped we may be able in due course, to extend the privilege of free medical examination and consultation from time to time to all employes who may desire it.

While on this subject, the speaker would like to revert again to the present State Compensation Laws and to state that although they are a distinct advance over the previous order of things, in that they have proved a most effective cure for a disease so common as to be almost an epidemic, namely, the ambulance chasing lawyer, it is a peculiar fact that they have in turn given rise to a number of new, but fortunately milder, kinds of epidemics.

These embrace such items as old age, heart failure, pneumonia, cold feet, hernia, indigestion, varicose veins, sprains (previously called lumbago), vertigo, and so on, if even a moderate proportion of newspaper and other reports are true, not to mention our own experience.

Hernia in particular seems to have developed to quite an extent. The majority of doctors we believe, are agreed that hernia is largely a congenital defect and develops gradually from one stage to another through life, finally becoming acute, due to any one of many small things, such as sneezing, coughing, straining at stool, stretching, slipping, falling, stooping, stepping, and so on. Yet although a progressive ailment as stated, if the final stage is reached or even claimed to have been reached on an employer's premises, the burden of proof is on the employer to show cause why he is not responsible. Generally speaking, insufficient account seems to be taken in many so-called accidents of this type of the fact that for practically two-thirds of a day an employe is his own boss, responsible to no one but himself, and by improper living or care, can unfit himself totally for the day's work.

It is of course, a mighty fine thing for an employe to be able to appear before a referee and cite his troubles without cost to himself, but it does seem as though some penalty should be inflicted when endeavor is made in this way to obtain compensation for fancied injuries, such for example as running sores resulting from slight bruises of varicose veins which in a healthy individual would never occur. But doubtless there is the other side to the story, of the employer who tries to side-step his just obligations, and time will be required to strike a fair balance.

But while the Compensation Laws are so solicitous in these features, why do they not take cognizance at least of the much more unfortunate individual who has lost an arm, an eye, a leg or has some deformity, and afford an employer an opportunity to provide work for such instead of threatening to inflict double penalties in the event of employment and a further accident. For example, when an applicant for a position presents himself, having but one eye, an employer although never having seen the man before and perhaps being desirous of lending a helping hand, has confronting him the law which says, "Beware—if you employ this man and he is so unfortunate as to lose his other eye while in your employ, you are responsible to the same extent as though you had caused the loss of both of his eyes." And it matters not that the applicant himself is willing to have the employer released, not from all liability for compensation in the event of a future similar accident, but simply from the double feature, the law again steps in and says, "No such release will be valid." Why should the law handicap an individual already handicapped? And what does the law propose to do with such unfortunates?

Further investigation of our accidents shows that the largest percentage next to carelessness of the injured, is due to flying objects. These are principally caused by particles of emery entering the eye when the workmen resharpen the points of their tools. Some time ago in an effort to reduce this class of accident, we equipped practically all of our grinders with glass safeguards as well as with signs of which one is shown.

These signs read as follows:

"In 1913, 14.8 per cent; in 1914, 14.1 per cent of the disabling accidents in these works were caused by flying particles from emery wheels and other tools. Will you please assist in reducing this percentage by seeing that the guard is always used. Goggles can also be obtained from your foreman." As the glass soon became wet, however, the guard was pushed to one side (instead of the glass being dried) and in due course disappeared altogether. We repeated the effort a short time ago on several grinders and with improved guards, but with like results. Notices were also posted throughout the works to the effect that goggles could be obtained from the tool rooms simply for the asking. With respect to this last, however, it would hardly be expected, that anyone unaccustomed to the wearing of glasses and not requiring them in his regular work, would remember to put them on even if in his pocket, once or twice a day when grinding a tool so that placing the glass guard on the grinder was the logical thing to do.

Under such circumstances, perhaps the only course left to pursue, if accidents due to this form of carelessness are to be reduced, is to

carry out the policy of one employer who, having gone through a similar experience, posted notices that goggles should be worn and thereafter decided that a particle in the eye was sufficient evidence to show an employe had violated instructions with the result that after medical or surgical treatment had been provided, he was either discharged or suspended for a time. In this connection, I do not agree for a moment with the statement made by a representative of the National Government at one of these conferences, that because a guard is inconvenient to use or somewhat in the way, is sufficient reason for a worker not tolerating it. Safety devices are largely a matter of evolution, the same as are many other things, and my personal feeling is that almost anything in this line is better than nothing. I do feel, however, that if a guard handicaps production, allowance should be made accordingly, in the setting of the piecework price or the time limit.

And this brings to the fore the total lack of standardization in safety devices due to the want of an official clearing house where manufacturers and others can go for needed information. In consequence, there is a tremendous duplication of work being done the country over by employers in designing safety devices independently of one another and for the same tools, much of which could be avoided by the establishment of an exchange bureau. Two efforts in this direction are now being made by the National Safety Council and the American Museum of Safety respectively, but they are lacking in official recognition by the States and their work is thus not so effective as it might otherwise be.

Still further, investigation of our accidents shows that of those due to carelessness of the injured, 76 per cent are caused by employes less than one year in the service. These statistics if representative of other concerns, and it is reasonable to think them so, would indicate that accidents are closely associated with labor turnover. Statements made from time to time by various authorities make it appear that the annual labor turnover in plants varies from 18 per cent to several hundred per cent of the normal working force with an average approaching 100 per cent, so that if a means can be found of decreasing the labor turnover, there would at the same time be found to occur automatically a decided reduction in the total number of accidents.

Investigations show that the average disabling accident in our works results in a loss of nine days to the injured, and that those occurring to employes who have been less than one year in the service are 39 per cent more severe in his respect than are accidents occurring to employes older in point of service. It will thus be seen how

important a factor labor turnover is, not only in its relation to accident prevention, but in its effect upon output as well.

Most of those who have studied the problem are agreed that education is the present best specific against accidents and it certainly does seem so. One prominent investigator has expressed this same idea by saying that given the choice of responsibility with respect to the prevention of accidents in two factories, one thoroughly equipped with safety devices but with an unintelligent force of workers, the other totally unprotected but with a force of intelligent workers, he would, without a moment's hesitation, choose the latter.

If then education is the best specific, who shall apply it, what shall it include and where is it to begin? With the labor turnover approximating 100 per cent, the average employer who undertakes educational work is up against a stiff proposition and his efforts would seem to be largely for the benefit of his neighbors, at least until such time as he can induce his employes to stay with him.

In any event, education requires time while accidents do not, as they have been shown to occur largely among new employes. So that it is evident, educational work, if it is to assist in reducing accidents, should be undertaken before employment, and this assumption puts the burden right up to the village, the city and the State, where in the speaker's opinion it properly belongs, aided of course, by every individual and every concern to the limit of their capacity.

Such educational work should not be along narrow lines but should, in fact, embrace everything pertaining to good citizenship including right living and right thinkng, of which safety first with respect to accidents would be a mere incident of the larger problem. And any measures less than the broad ones indicated, will fall short of accomplishing their purpose.

An important phase of this work would include better educational facilities for our foreign born population. We have no business, longer to invite or permit unlimited immigration, if for no other reason (although there are other reasons) than that we are not at present equipped to make good citizens of these immigrants. In this State, for example, there are 1,500,000 foreign born whites over ten years of age of whom a third of a million can not read or write any language, while a half million can not speak, read or write our own language. But what is more appalling, the number who can not speak, read or write our language, jumped in only ten years from a quarter to a half million, that is, increased by 100 per cent. If this proportion holds in other States, is it to be wondered at that in the disorders occurring throughout this country during the past two years, foreigners took such a leading part.

It may seem to some like a far cry from safety first to good citizenship, but the complete solution of the one is intimately linked with the solution of the other, and if ever there was a single cause to which all in these troublous times could whole-heartedly contribute in some degree and without difference of opinion, it is this one of good citizenship, education, community betterment, safety first, conservation of our resources, call it what you will.

The Accident Problem of the General Industries is not up to the other fellow—the fellow servant—but is up to every one of us and failure to solve it properly will remove it from the accident column to the column of crimes.

CHAIRMAN WHEATON: The comments of the speaker, who has just closed, upon the importance of citizenship in the matter of welfare work for employes is exactly the position of the United States Bureau of Education. We have said that citizenship, and knowledge of English, and knowledge of safety rules and regulations, and some training in industrial and educational lines is absolutely indispensable for the enormous part of our population of foreign birth now employed in the industries not only of this State but of the whole country. In the United States we have almost three men in ten, and probably have more than that now of foreign birth who do not speak the language of the United States. That is the reason they cannot read in our language and understand in our language. They must be reached through foreign speaking interpreters, those who understand them and are able to speak to them.

The next speaker will deal with The Accident Problem in the General Industries from the standpoint of the union man.

I therefore take great pleasure in introducing to you Mr. Robert J. Wheeler, of the Glass Bottle Blowers' Union, Allentown, Pa.

THE ACCIDENT PROBLEM OF THE GENERAL INDUSTRIES.

By ROBERT J. WHEELER, Glass Bottle Blowers' Union, Allentown, Pa.

Mr. Chairman, ladies and gentlemen, I think it was St. Paul who said, "Study to know; prove all things; hold fast to that which is good." This saying could well be a maxim for this Conference.

You are dealing with social problems in this Conference. Looked at in the broadest way, we are considering the great fundamental problems of life in America. And wrapped up in the subjects which you have been discussing for the past two days are the hopes of human society in this one great nation which has escaped the awful cataclysm now sweeping over Europe.

If civilization is to survive with some important part unwrecked; and if it is to carry forward the experience and lessons which have come to this part of the world, while the war rages in Europe, this United States must be the leader in the future.

I must say I feel that we are woefully unprepared for such a role in the great drama of nations.

Sitting here and listening to the very earnest address of the previous speaker one can not but be vastly impressed with the efforts that are being put forth by men of affairs to deal with these problems, but one can not fail to be impressed also with the fact that we are very much at sea as to what we should do.

I think it is rather useless for us to try to fix the blame for our industrial or social troubles on any one class in society. This one thing we should understand to begin with—it makes but little difference who is to blame. Society must deal with the results.

Every one in this Conference desires to see greater efficiency in industry.

Most of you in this audience are employers or are in the employing class in some capacity and these problems are tense problems with you. You have to produce the goods to-morrow and you are very much interested in any palliative that will help you in your work. I am representing, just now, that party—the workingman, who is the subject of so much discussion in this Conference. Although in an employing capacity at present, I have been actively engaged as an industrial worker for about thirty years. I think I understand the worker pretty well—his abilities, methods of thought and his outlook. I know he does not enjoy being injured or killed. I know that he is prone to blame some one else when he is injured. I agree that in a great many cases he is himself to blame, if we could reasonably place the blame; but there are extenuating circumstances.

Most representatives of the employing class, like the previous speaker, chafe under the restrictions that are hedging them about and are impatient over the lack of co-operation on the part of the workmen, in their laudable efforts to reduce accidents in industry. From my experience as a practical worker I know that men are injured in very peculiar and senseless ways at times. All of us who pay attention to accident statistics are familiar with this term "carelessness" given as the greatest cause for accidents. It would appear that the greatest percentage of accidents is really caused by the worker's own heedlessness and lack of co-operation with his employers in efforts to prevent accidents. But this cause, "carelessness" needs explanation.

From my experience as an industrial worker I know that what often appears to be carelessness is really some other cause, which because it is not easily recognized fails to be noted and listed as the real cause of the accident.

Recently I came across an article by a French philosopher on the Psychology of Accidents. This writer said: "Most accidents occur during off periods of the mind." Plainly interpreted this means, during spells of absent-mindedness.

This fits in exactly with my own experience. Many accidents occur during off periods of the mind, or during spells of absent-mindedness. "But," you say, "the worker should keep his mind on his work." I reply, "That is impossible, considering conditions in modern industry, where operations are so simplified and machinery is so rapidly becoming automatic."

Where the character of the work is such that the worker comes in time to perform his function in a machinelike manner, he naturally does the work without thinking. His actions are under control of the sub-conscious mind and are performed involuntarily, while the conscious mind may be roaming afar in fields of thought totally unconnected with the work in hand.

Some years ago, I worked in the glass bottle industry with a man who was badly injured while going about his work in an absent-minded manner. This man was given to periods of great abstraction while at work. In the glass bottle industry, men perform the same actions so many hundreds of thousands of times and their bodies assume the same position so often, that they really work like automatons. This man was highly intelligent, a deep student of serious subjects and his mind dwelt constantly upon his studies while at work, and also he was one of the best and most expert workmen in the trade. One day, as he sought to go down from the high platform upon which we work, to the floor of the factory, the steps leading down being slightly misplaced, he lost his balance and fell. One of his hands was thrust into a pile of rubbish and a sliver of glass ran through it. A large number of small pieces of glass also penetrated his hand and for months this man was laid up with a badly infected wound. You might say he was careless or some one else was careless in not placing the bench securely, but the benches are known to be loose and the man had stepped down thousands of times before on a misplaced bench, without accident. This time he was lost in thought —abstracted—his mind was in an "off period." Thousands of accidents happen each year, due to mental abstraction on the part of workers who are performing operations that call for no application of the mind.

Again, coming under the same head—men may be abstracted by domestic troubles, financial stress, or worry over illness. Accidents occur and for want of better understanding of the real cause, are listed as due to carelessness.

Men may be fatigued from long hours, excessive speed or loss of rest for one reason or other. Accidents happen and are listed as due to carelessness.

Men may work while actually asleep. In the glass industry it is possible to work and keep up the speed of the shop and actually be asleep. I have done it myself and have seen others do it. It happens also in other industries. Engineers sleep at the throttle; the soldier sleeps while walking his sentry beat; men have been known to sleep while driving an automobile. Accidents occur at such times and are listed as due to carelessness.

Another cause of accidents is the speed of American industry. It is most unfair to say that our workmen are injured through their own carelessness when they are compelled to work so fast that they do not have time to be careful. To compare American and European accident statistics and charge the great excess of accidents in America to the carelessness of American workmen is only presenting half the case when you compare the rate of production in American as against European industry. In our glass industry we make three times as many bottles in a day as the English workmen do and five times as many as the Germans. You must produce the goods and you have to take chances to do it. Being careful means lowering the speed and reducing the amount in the pay envelope. It is no wonder that so many accidents occur, the causes of which are so easily and safely hidden under the general term "carelessness." But it is idle to argue about the responsibility for accidents, especially in the presence of such a splendid spirit of amity as this Conference presents. The thing to do is to agree upon methods of prevention and put them to work.

This Conference has heard all the discussion of causes of accidents it needs. The two previous speakers have given us sufficient material to enable us to arrive at some fundamental basis for the prevention of accidents to a much greater degree in the future. The gentleman who preceded me stated as his best remedy—the better education of the workers—but he was at sea as to how it should be accomplished, who should attend to it, and how it should be financed.

You have heard this idea advanced as a cure for every problem presented before this Conference; and if a hundred speakers were to come before you, they would all harp upon the same idea. We all agree then as to the remedy, but we are helpless and confused when we think about the working out of this idea.

I shall present something tangible, concrete and workable to answer the question.

Germany above all other nations has the most efficient educational system. In less than two generations it has made her the most powerful nation and most efficient social entity in all history.

Years ago, when Prussia was a small, ambitious, scrappy state, a few strong men, among whom were Bismarck, the statesman, and Von Moltke, the warrior, conceived the idea of building a German Empire. Bismarck at the beginning and end of every discussion was wont to declare, "But first we must have schools."

And these old fellows first organized schools where every German youth was taught to become proficient in some life vocation, every youth, from the children of the Emperor to the children of the poorest subject. Then they carried this system from Prussia to the other German states. Upon education they built their industrial and military strength and Germany became a world power, a power that is now shaking the civilized nations to their very foundations and compelling them to rebuild along German lines if they are to withstand German aggression.

I am pro-Ally in sympathy in this war. My people have fought in England's armies for a thousand years, but I have a profound respect and admiration for the Germans. They have taught the world more of how to do things than any other nation, and Germany must teach us how to educate the future workmen of Pennsylvania for none other than the Germans knows how.

The German system of academic, manual training, vocational, continuation, industrial, and technical schools carries the youth from the first school year through into actual life and delivers him to society with trained ability to serve.

German schools are supported by municipal, state and national funds; by private gifts; by labor unions; by manufacturers' associations, and by art associations.

German school children have set before them a great ideal, the German Empire, supreme in the modern world, spreading culture, efficiency and social excellence to the nations.

Whether this ideal appeals to us or not is beside the question, the Germans are the healthiest, most efficient and most progressive people in the world, and America can well afford to copy their methods of education.

This is the significant thing, Germany did not begin by trying to educate her adult people. She began with the children.

We in America address all our attempts to solve social problems to our adult citizens.

This is a fundamental mistake. The new ideas must be instilled into the children, drilled into them, stuffed into them, beaten into them if you will, but somehow trained into them. Then when manhood and womanhood is reached, America, like Germany will have better workmen, better people.

The German people are noted for their patience, carefulness, systematic habits, love of order, attention to detail, respect for planning and organizing, love of beauty, of art, of music, of domestic life, regard for health, cleanliness, loyalty to ideals and excellence in workmanship.

The German system of education will instill these characteristics into any people, for after all, there is not much difference in human material. Our system of education is not a system at all, but a heterogeneous collection of types of schools, lacking cohesion of aim, working on no general plan, inspired by no great national ideal and presided over, in greater part, by teachers too young to possses knowledge because they have had no experience with life. Knowledge is the fruit of experience.

In discussing education I am not speaking ex parte. Many years ago I was a teacher, receiving my training in one of the best normal schools in the State and afterwards teaching in the public schools for two years. Since that time I have carried on educational work along many lines with adults. At the present time I am ready to say that as compared with the value of the right kind of education for children, our great and costly effort to educate our adults and make them more careful and more efficient in every way, produces results far too meager for the money and effort expended.

The adult is impatient with efforts to teach him new ways. He is the twig inclined and grown into a tree that is bent.

The company I work for erects safeguards in factories of all kinds. Our men go in and take the hazards away from the fellows who are working around the machines. We meet all kinds of workmen and all kinds of employers. I will say to the credit of the employer, he is the most interested. Whether it is because the workmen are so scarce or the employer is becoming more humanitarian, I will leave to you, but the fact remains. The workman, busy with the problems of production resents the guard as a hindrance and a nuisance. You may seek to guard all the machines and make them safe, but few accidents happen because machines are unguarded. The main thing is to get the workman to do what he is told. He will not do so if he has not had good training in school. He will say, "I am not going to be bothered with the glass over the emery wheel," and he will turn it up instead of wiping off the moisture and perhaps get a piece of steel in his eye and his family and the firm will both lose money.

He must be trained in school when he is young, trained for all the vocations of life, acquainted with industry, its dangers, its provisions for safety and the prime importance of obeying wise rules for the safeguarding of his health and life.

And the worker knows very well that he is heedless and does not take the proper precautions he should. A man may be injured by disregarding rules and after he recovers and returns to work he may do the same thing over again, thinking he will escape this time. He is suffering from bad habits due to defective education. He would be a careful workman if he had been properly trained when he was young.

Our schools do not help the worker or manufacturer much. I say this with the experience of a teacher, a worker and an employer. I am not condemning our American public schools. America's efforts to educate her people for the last seventy years have been magnificent, though most sadly misdirected, because the interests which have most at stake in an economic way, have given them scarcely any attention.

Our educational problem is unlike that of any other nation because of the vast number of foreign people who come to us, not knowing our language, and not able to comprehend our ideals. We have done what we could but our schools are like dull or broken tools. Any practical worker knows that good results can not be obtained with dull or broken tools.

Our situation was bad enough before the War, but will be vastly worse after peace has come and the lean and hungry nations of Europe have repaired the damage of war and enter again into the race for the commercial prizes of the world. During the War they have been compelled to abandon their old-fashioned methods of production. They learned that America could produce machinery that would run without human hands to aid it. The clever German, English, French and Italian peoples have been buying some of our fine machinery to help them in the war. Some of you folks have been selling them machinery, wonderful machinery, machinery that works far better than the human worker ever could, machinery that never eats anything, never wears anything, never complains about hours nor wages nor conditions; never strikes for higher wages, has no wife or children to support and never dies. And they will buy these machines in Europe, and turn them against you after the war.

And the boys and girls in Europe, who are growing up while war rages, will be better trained for industry than were their fathers who are being slaughtered on the firing line, trained and prepared industrially to take away from that monster, America, who has all the world's money now, some of that money.

America is facing a great crisis. The warring nations have been compelled to take up co-operation as a method of economic defense. The governments abroad have abandoned internal competition because of its wastefulness. They will not abandon this new method of production; they will not unlearn the valuable lesson of the War.

Again, the European nations have managed to adjust their social differences, their internal social differences, to a very great degree. Social heights have been leveled and social depths have been bridged. To a very great degree poverty has been abolished and the welfare of all has become the concern of each. Think you that these things will be changed greatly when peace comes and those nations go back again to the old social system? They will not, because they can not afford to waste human life or energy or money and they will cling to the most efficient system that has been forged out of the very furnace of war.

What are we Americans doing to prepare for this great contest after the War is over? Absolutely nothing but talking. On every hand we hear of meetings and conferences being held but beside a lot of talk, they accomplish nothing. We depend upon blundering along somehow. I think we are the prize blunderers of the world. Since we made the Constitution and got that off our minds, we seem to have left all national planning to the Lord and no matter what happens we expect the Lord will pull us through.

But now the time is at hand when we can no longer hope to make progress by main strength and trusting to luck. We must plan carefully because our competitors are careful planners.

In this United States we have vast natural resources, clever mechanics and wonderful inventive genius. We have been doing the best work in the world in a rough way. But we must get down to finer work if we are to hold our own in the great scramble that is coming.

We must extend our social vision, reorganize our school system, and lay enduring foundations for an efficient society.

Our national ideals should be clearly set forth and taught to the youth in the schools.

Different classes will have different ideals, that is true, but no really great national purpose can be carried out unless we first prepare to take better care of our people.

The employing class may see commercial supremacy as the destiny of these United States. The labor unions may see a more efficient state of society from which poverty, disease, and other social evils are forever abolished as the goal toward which their efforts are directed.

These ideals differ of course, but we must have a better educated people before we can hope to attain either ideal.

Europe will seek to abolish poverty and disease when the War is over. She will not have so many workers that she can afford to lose them through disease or lower their vitality and reduce their producing power through poverty.

The United States has been very slow to begin the work of conserving the lives of its workers, but we are now turning our attention to it. Skilled workers are a priceless asset to any manufacturing nation. The war has taught us that. We do not want them slaughtered in industry any more than we want them slaughtered in war. There is not much difference after all.

Europe will try to settle the old quarrel between capital and labor after the War is over, because she can not afford to waste energy in internal disorders that might be better expended in winning back her lost foreign markets. In the United States we seem to be planning to engage in the most bitter conflict between capital and labor of our entire history. Just at the time when, as never before, we should be planning teamwork and co-operation between all our industrial forces, we are engaging in organized hostility on a scale never before known.

I once believed that organized hostility was the best defense the worker could have, but lately I have changed my mind. I am opposed to war of any kind, even war between capital and labor. It costs both too much and better results can be obtained through peaceful conciliation. We can not afford to be fighting among ourselves in this nation while the nations of Europe, who have had enough of fighting, are practicing the lessons of co-operation they learned in the War and are beating us in every field of endeavor.

The organized employing class and the labor unions are two mighty forces that should be making their power felt in efforts to solve the problems we are discussing here to-day. If we could but use one-tenth of the energy in co-operation for better schools that we waste in fighting each other, we would get somewhere.

Now I know that the employer of to-morrow is not going to be so indifferent toward the welfare of his men and I know that the workman of to-morrow is not going to be quite so suspicious of his employer. A better and broader spirit is moving both of us. There is a desire for less conflict and more co-operation.

Therefore I say to you who are employers, let us together plan to improve our educational system to the end that we shall have better trained people for every vocation in life.

A conference such as this ought to do more than listen and discuss. Somehow it ought to crystallize the sentiment throughout the

State for certain social improvements. This Conference ought to be a power in the State Legislature, urging upon that body the adoption of laws calculated to bring about changes that are here shown to be necessary.

As I said in the fore part of my address I repeat again, before we can hope for much improvement in the people who must do the work of industry, we must have better schools.

The organized employers and the labor unions have the most interest in bringing about the improvement of our schools. We know what we want the schools to do for the workers. Then let us join our efforts to give this State a school system that can help us.

If I were to suggest a plan upon which we could work, I could think of no better one than that which gave Germany her system.

Let a few strong men, representing organized labor, the organized employers, and the professional educators of the State meet together and plan an educational system that will meet the demands of our present industrial society.

If anything better can be devised than the German system, then let that be set forth; if not, let this educational conference plan for the introduction of something like the German system in Pennsylvania.

Because we are a democracy and there is no power to command until our people are first convinced, let this plan to re-organize our school system be made a state issue and thoroughly explained to the citizens of the State. Then let it be carried to the State Legislature and enacted into law.

In some such way as this, Pennsylvania can get a real school system that will adequately serve her great social and industrial needs.

How shall we finance it? In the same way that Germany has financed her system.

Let municipalities own all public utilities and use all surplus earnings for civic and school purposes.

Consolidate civil and school governments in all units of government below second-class cities and thus abolish the present waste of funds through the dual government plan.

Finance special schools by national aid, as proposed in the Page Vocational Education Bill; by funds donated by unions, associations of manufacturers, etc., as is done in Germany.

The labor unions of this State believe that some such reorganization of our schools is coming and we have begun to prepare for it. Last week, President James Maurer and myself visited State College and discussed with President Sparks the details of a plan we propose to take before our next convention. By this plan we aim to raise the sum of $25,000 to be entrusted to State College as an en-

dowment fund to be loaned to young men and women from the skilled trades. These young people are to spend two years at State College and be trained as teachers for the vocational schools of the State. Thus the schools will be able to obtain teachers who have industrial experience.

Now what are you manufacturers doing along this line? Well, you maintain a few corporation schools, that do very good work as far as they go, but that is not enough. Such work should be general, should extend all over the State, should be part of our school system.

After all, "there is nothing new under the sun." We are talking about organizing a school system that will give us better trained people so that society may become more efficient. But ten thousand years ago the Egyptians had such a system. Herodotus tells us about it. The Jews learned it from the Egyptians. That is how St. Paul became a tent maker, a vocation of which he was very proud.

Our tremendous social problems wait for solution upon better methods of education. We must reorganize our system from the bottom up. It is too big a task for the professional school people alone. They need the help of the industrial forces of the State.

Before we can have careful people in industry; before we can have greater efficiency; before we can have industrial preparedness; we must have educational preparedness.

We workingmen have not been taking enough interest in the school system. You manufacturers have not been taking enough interest in the school system. Both of us have left it to the school teachers, just as so many men leave their religion to their wives. And we now must wake up and turn our attention to the schools or the European nations will wipe us off the map with their greater educational preparation and their greater social efficiency.

In conclusion, I want to quote an unknown poet whose understanding of human nature was very keen.

"Man is not inclined to knowing,
'Till things are against him going,
And he's sore in need;
Right and Truth may go a begging,
Until personal physical egging,
Him arouses them to heed."

Let us hope that the truth and right of these things will arouse the keen and intelligent people of this nation before they are too badly distanced in the great race that is before us. Let us make our preparation while time permits us to prepare. Let us hope that we shall take steps right soon to lay a broad and permanent foundation for the future greatness of this Nation; that she may continue to be

the hope and the light of the world; the leader in the work of up lifting humanity; the torchbearer of progress and civilization.

CHAIRMAN WHEATON: At the request of Commissioner Jackson the Workmen's Compensation Law will now be discussed. I believe Mr. Paul Furman, Chief, Bureau of Statistics and Information, Pennsylvania Department of Labor and Industry, is to open the discussion with reference to the law and its workings.

DISCUSSION OF THE PENNSYLVANIA WORKMEN'S COMPENSATION LAW.

By PAUL N. FURMAN, Chief, Bureau of Statistics and Information, Department of Labor and Industry.

Mr. Chairman, ladies and gentlemen, as you no doubt recall at the opening session yesterday the Compensation Law was the subject. In addition to the speech of the Commissioner and the address of the Governor and the exposition of the system in this State and of its workings by Chairman Mackey, we had the complete endorsement of the Law as it is at the present time, with the possibility of future amendment, by Mr. Farquhar, representing the employers and Mr. Maurer, representing labor, who emphatically endorsed the administration of the law but objected to some features of it as an Act. Dr. Estes, representing the medical profession, took objection to some features of the Law, claiming that it was imposing an additional work, with less compensation, upon the physician, and at that point it was too late to begin the discussion.

In spite of what was said by everybody, there are some features in connection with this Act which stand out and are immensely impressive. The foremost of these is the fact that the Pennsylvania Act has received the unanimous working support at least of every employer in the State and of practically every employe. There has been no trouble whatever from either source in the administration of the Act. Employers have done a great deal. They have gone out of their way both to direct the employes and the insurance companies to make the administration of the Act easy and make it applicable to every case that would come under their notice. At the same time the employes have done a wonderful lot to make the act workable. We have had the co-operation of the labor organizations throughout the State from the very first. In some sections there are committees.

which represent various organizations, which have nothing to do except to keep their men right as regards the Compensation Law. The result is that we have had fewer appeals from employes for compensation in this State than they have had in any other State, that is, in proportion to the number of compensation cases. There has been, in the vast majority of the cases amicable arrangements between the employe and employer and in every case where an agreement has come in and we have called the attention of the employer or insurance carrier to the fact that there was a mistake in the agreement or that for some reason we could not approve that agreement, after reviewing it in the Bureau, they have without question, accepted our statement and corrected the agreement and arranged the compensation as per our suggestion. This co-operation of both the employer and employe has made it possible to put the Pennsylvania Act in practical working shape in much less time than anyone anticipated that we should be able even to begin the administration of the Law. As Mr. Maurer stated yesterday, he thought that about this time, after nine months, that we would probably be in shape to work out compensation. As a matter of fact, we were in shape the first of the year, have been in shape all the time, and have continued, with the help of both sides and all interested parties.

Of course, one thing which has added greatly to that, has been the simplicity of the law. All that is necessary when a man is entitled to compensation is for the employer and employe to agree upon the amount of compensation to be received, that being fixed by the wages of the worker, and it is done. That is all there is to it.

Mr. Maurer made a number of suggestions as to possible amendments of the Law. From practical experience in the administration of the Law there are some features which could be made a little more easy to administer possibly, or some features of it more easily understood—take, for instance, the section which defines wages—those things need some amendment, but I am rather inclined to agree with the stand taken by Mr. Farquhar that for the present at least there should be no fundamental change in the Workmen's Compensation Act; that it should continue as it is in substance at least until the 1919 session of the Legislature, if not longer; it should be given not one year's try out, but a thorough three years' try out; then if we find that there is occasion to amend it there is every reason why it should be done. But we must take into consideration in all these matters that this is the largest industrial State of the Union, that this is practically revolutionary legislation as far as the State is concerned and that one year's test of it is not fair to either side.

One thing that the Compensation Law has done—it has brought to the attention of every one interested either in compensation or acci-

dent prevention, accurate knowledge of the great number of accidents which occur in industry in this State. To-day's reports bring the total which have been received so far this year up to approximately 225,000 and we still have more than a month to go, a month and a third, so that by the end of the year the prediction that was made by Commissioner Jackson months ago that we should have at least 250,000 accidents this year will be borne out. Again, the percentage of men killed is high. One man in every thousand who is injured dies as the result of the injury. Of course, the accidents which are reported include every injury which causes a loss of two or more days. Out of those 225,000 probably at the present time about 65,000 are compensation cases and that includes the 2,300 or 2,400 fatalities we have had up to the present time. I don't know the exact figures.

We have endeavored throughout the year to profit by the experience of those who have had the practical handling of this Act, representing the employers and the insurance companies. We have had conferences with them in various sections of the State on the matter of forms to be used, on the question of procedure in certain cases, and in that way we have had additional help and we have given whatever help we could to those who have had the practical working, along with the people in the Department, of this Act. Everywhere we have met with exactly the same spirit of co-operation, the full and free desire to co-operate. Mr. Maurer made a rather vigorous attack on some of the insurance companies. There may be cases in which that was deserved, but considering the insurance proposition and the exempted companies as a whole they have done all that the Law requires and in a great many instances more. I could tell of employer after employer who pays the full medical bill of the man who is injured. They don't stop at the end of two weeks. They pay right on, no matter what the law says. I was talking this morning with a man in the office who said they had one case which cost them $1,400 so far and they did not know how much farther it would go but they were going to see it through. That spirit is rather general. There are less than forty companies writing insurance under this Act and there may be one or two out of that number, as Mr. Maurer says, that don't settle their cases until after the man is ready to return to work. We are doing all we can to correct that condition. I think that within another six months, surely within another year, with a better understanding of the spirit and the letter of the Act that we will have more prompt settlement of compensation cases.

As to the exempted companies, at the beginning we had some trouble with them, to make them understand that they would be held to certain rules and certain provisions of the Act, but that is all.

I don't know that there is an exempted company in the State with which we are having the slightest trouble and I am sure that the trouble with insurance companies, of which complaint was made yesterday, can be overcome just as readily and in just the same way. All we need to do, is to get together with such gatherings as this, and in smaller groups at various places, and let the men who have the practical handling of the Act for the insurance companies understand just what is expected of them. Where there is any lapse I don't think it is the fault of the people at the top. Somewhere along the line there is a break and the policy of the company is not carried out by the people who have the actual working of it as the heads might desire; but that is all going to adjust itself and we are going to have just the same spirit of co-operation from the insurance companies that we have from the exempted companies.

I don't know of anything else that arose in the discussion of the papers yesterday that would call for any comment from me at this time.

CHAIRMAN WHEATON: The whole question of the Workmen's Compensation Law is now open for general discussion. Is there anyone here who would like to criticise the Law or make any comments upon it or suggestions? Now is your opportunity.

FRANCIS FEEHAN, Supervising Inspector, Department of Labor and Industry: Mr. Chairman, as a member of the Industrial Accidents Committee, which prepared the law which is now in effect, I want to make these remarks to this Conference: First, that the Law now placed on the statute books is not entirely satisfactory to the working people of this State. Quite true, it is the best that could be obtained after years of strenuous effort to have a law of this kind placed on the statute books. After all that has been said about compensation it is the outgrowth of this conservation movement for the protection of the industrial workers of this and other states. The conservation movement was inaugurated many years ago and as a previous speaker has said, in Germany more than thirty years ago they discovered the necessity for penalizing the careless employer by the passage of compensation legislation. The enactment of that legislation as statistics will prove, brought about an enormous reduction in the number of accidents in industries. That has been proved also by the enactment of legislation in the various industrial states of our Union. Reductions have been registered to the extent of more than fifty per cent by the passage of workmen's compensation legislation.

Let me remind this audience and the people of this State that Pennsylvania, standing out as the most prominent industrial state of this Union, is more than four years behind the other industrial states in the enactment of this very necessary legislation for the protection of the industrial worker. Other states preceded us two to four years and Pennsylvania was the last great industrial state of this Union to enact this legislation; and when this Law was enacted it was the best that could be obtained because of the opposition to this legislation, opposition from the employers of the State. And let me add this: That while we have been behind in the enactment of legislation and the workers of this State were required to be satisfied with the 50 per cent scale of compensation, other industrial states adjoining this

have already passed and have in effect compensation legislation providing for the 66 2-3 per cent scale of compensation to our 50 per cent. We were years behind, I say, and while there are many who hold that the Law should not be amended, I am one who believes that the law should be amended and brought up to the standard of compensation laws in effect in other industrial states of this country. I have given six years service on the commission investigating industrial accidents in this State, and I was a member of the commissiou and assisted in preparing the present Law. It was not to my liking as the representative of the working people of this State and I was obliged to submit a minority report. It provided for a system of state insurance which has resulted in a satisfactory administration of our Compensation Law. I was not satisfied with the scale of compensation but subscribed to it because of the opposition coming from the employers of this State and because it was the best that we could obtain under the circumstances.

A short time ago I was requested, because of my previous experience in connection with this legislation, to prepare ameudments to the present Law, requested by the officers of the Pittsburgh Central Trade Union. I prepared a series of ameudments that I hope will be incorporated in the present Law and added to it at the uext session, and I just waut to read them over and submit them for the consideration of those who are attending here, not for action, not to be worked upou, but in order that those counected with this Couference could give them serious consideration.

"First: The Law shall be made compulsory; and apply to farm labor."

The present Law is optional for the reason that a compulsory law at the time of its passage was unconstitutional. Since 1913 the constitution has been amended.

"Second: The compensation schedule shall be increased to 66 2-3 per cent."

This is the recognized schedule for all other industrial states in the Union. The preseut law known as a 50 per cent schedule was the best that could be obtained at the time of its passage.

"Third: The waiting period of 14 days shall be eliminated, and compensation paid from the date of the accident."

The present Law provides a 14 day waiting period for which no compensation is paid.

"Fourth: The employer or insurance carrier shall defray all expenses for medical attention, doctor's bills, hospital bills, and the cost of operations when necessary. They shall provide, at their expense, artificial limbs, arms, teeth, eyes, and eyeglasses, where the sight is impaired. Where a dispute arises on account of fees charged for medical services, the Referee's decision shall be final and binding upon both parties."

Under the Law as at present arranged, the sum of $25.00 for medical services, or $75.00 in case of operations, is insufficient. Frequently an injured employe, who is required to go to a hospital does not receive sufficient compensation to pay for hospital services and medical attention.

"Fifth: Impairment of any member or faculty of the body, or disfigurement of the body, shall be compensated in the same manner that the law uow provides for the loss of an eye, or the loss of a limb; and a proportionate definite schedule arranged for the impairment of any member or faculty of the body."

It frequently occurs that serious accidents happen, which result in the loss of fingers, toes, portions of the hand or feet, ears, nose, teeth, hearing, eyesight, etc., for which impairment, little or practically no compensation is received.

"Sixth: The dependents of aliens residing in foreign countries, viz., widows, orphans, father, and mother, as well as others who may be dependents, shall receive the same compensation as will be paid to the dependents resident in this country."

The present Law provides that two-thirds of the regular compensation is to be paid to the widows and orphans of aliens who reside in foreign countries, while the parents and other dependents are excluded. This will lead to discrimination on the part of employers when selecting employes, whose risk is greatly reduced by giving preference to alien workmen.

"Seventh: The basis for computing compensation due shall be changed from the present 'five and one-half days constitute a week' to the rate of pay actually earned by the injured employe per day, and the number of days per week he was employed, together with overtime work if there be any. Idle time shall not be included when figuring the average daily or weekly wage."

The present system of calculating compensation is unfair to men who are obliged to work six and seven full days per week and excessive hours of employment and overtime.

"Eighth: The Compensation Law shall be amended to apply to employes incapacitated by industrial diseases."

At present the Law does not apply to persons who are physically disabled through contraction of industrial diseases. The purpose of this amendment is to include in the provisions of the Compensation Law all employes who are obliged to work in plants where dusts, gases, chemicals and other materials are used, which impair and destroy their health.

"Ninth: It shall be compulsory upon all employers to insure with the State Workmen's Insurance Fund."

Where employers are permitted to carry their own insurance or to form mutual casualty companies, there is serious discrimination in the selection of employes, and numbers of men who have been previously injured in employment, prior to, and after the passage of the Compensation Law, have been denied employment; and injured workmen with their dependents, have suffered from delay and experienced great trouble in collecting compensation due.

"Tenth: We favor an adequate appropriation to cover the administration of the Compensation Law, and provide the Referees and other employes with a salary sufficient to secure the most competent administration obtainable."

MR. DAVID FOWLER, United Mine Workers of America: I am sorry that the mine workers have not had much to say in this Conference and I believe that the mine workers and mine operators should be considered in future conferences. It is one of the greatest industries in our State and a majority of the accidents occurring are in the mines. We find that this Law has not sufficiently taken care of our employes. For instance, our organization has done a great deal in trying to educate our people to understand this Law. The mining industry employs thousands of men who don't understand the English language. Our organization has had this law rewritten in the different languages and presented to our employes.

We are seeking also some amendments. I have been going around to the hospitals and to the homes of some of the miners who have been injured and I have found that this Law does not take care of our men as it should. For instance I visited a man by the name of John Kusac up in our county, at Taylor. This man was injured at the Taylor mine. He had his two eyes blown out and one hand taken off. He has a family of six small children and a wife. If this man had been killed his family would receive a greater compensation. As it is now, they don't receive sufficient compensation. If this man had been killed his children would be taken care of until they are of the age of sixteen and his widow would have been taken care of for a certain number of weeks. This man now receives compensation for a certain period at $5.99 a week. My friends, I have seen other men, without families, injured close to this man; one with one hand off and one eye out; no family dependent upon him; partial disability. This man receives for

three hundred weeks more compensation than the man that has a family of six children and a wife. He receives ten dollars a week and therefore he receives in this period of time more compensation than this poor fellow who is unfortunate in having two eyes out and a hand off. Then too this man with both eyes out must always have part of the family take care of him. We have talked to a great many employers and I believe the employers of this State are perfectly satisfied to go fifty fifty on a case of this kind and see that that part of the Law is amended.

The brother here was talking about insuring for industrial diseases. I want to say that in the case of the miner to-day that that should be injected into this Law. Years ago our miners were fortunate enough in working in the high veins of from 6 to 14 feet of coal and higher. To-day our miners are down working in 27 inch veins. I want to tell you, my friends, that the life of a miner to-day in the low veins of the anthracite field is reduced and he will not be able, after six or seven years service, ever to go into the mines again. So I want to say, my friends—I am not going to take up any more of the time, I realize that others want to speak on this question—there are several amendments that we think we should have. We think we should receive the 66 2-3 per cent because the New York State Law has that in, and if I have the facts right and know the New York Law, they pay 66 2-3 per cent for a greater period than this State; for instance, the hand is paid for, I believe 175 weeks here at 50 per cent., and the New York State Law pays over 215 weeks at 66 2-3 per cent. I thank you.

CHAIRMAN WHEATON: Are there any other remarks on this subject? Is there any insurance man who would like to comment on the Law? If there are no other remarks on the subject discussed this afternoon we will consider the session adjourned.

WEDNESDAY, NOVEMBER 22, 1916.
EVENING SESSION—7:30 O'CLOCK.

Chairman, G. CHAL PORT, State Fire Marshal.

COMMISSIONER JACKSON, Acting Chairman: Mr. G. Chal Port, State Fire Marshal, who was to preside as Chairman this evening is not yet here. He was called on a very important case to the central part of the State. Mr. Lew R. Palmer, Chief, Bureau of Inspection, Pennsylvania Department of Labor and Industry, will open the general discussion on The Employer's Duty toward Accident Prevention.

MR. PALMER: Mr. Chairman, I thought when I moved to adjourn the meeting this morning that I had side-stepped this discussion, but the Commissioner, my superior, has ruled otherwise. It is rather difficult to discuss the papers that I did not hear read, but I know the speakers who were on the program this morning and I heard part of the talk given by Hr. Herbert, the Cambria Steel Company's safety man, and I am sure you agree with me that he gave us some very interesting things to think about. He told you that in the plant they try to gain the friendship of the foremen and not work the big stick overtime. Now when he said that, it reminded me that we here at Harrisburg, in the Department of Labor and Industry, bear the same relationship to the employer and the manager of a plant that he bears to the superintendent and the foremen of his individual plant. We try to encourage our inspectors to go out through the State and in their inspection work gain the confidence and the friendship of the plant manager and of the superin-

tendents down through the plant organization. We have been taught,—those of us who have charge of the different divisions in the Department,—by the Commissioner, that we should get the work done because the people want to do it rather than because we make them do it; and I wish to take this opportunity of expressing my sincere gratitude to those of you who have met our inspectors in the field for the thorough co-operation that you have given to them in their work. This has been rather a severe strain on the safety men in the industrial plants as well as the safety men here in Harrisburg. This year is one of the most strenuous years that I believe Pennsylvania has ever seen and naturally when the wheels of industry turn faster the numbers of accidents occurring, as a rule, climb higher. To those of us here that watch the accident reports as they come in to us—and no doubt you have already heard the number that we are due to record at our present rate, some 2,500 fatal accidents throughout the State this year,—it is the inspiration that we gain here at this meeting that encourages us to go ahead and work. Think of it, something like 250,000 disabling accidents in one year. It is almost heartbreaking to see the curves going up, but we know absolutely that if the good work that you have done in your individual plants had not been done, that 250,000 would have represented probably only half the total, and that the 2,500 fatal accidents would have been closer to 5,000. Now it is always encouraging to have ahead of us the chance to do good work, and we certainly have that in Pennsylvania. Previous to this year we have had practically no statistics that have been of value to us. We have not known what the accidents, either fatal or serious have been. To-day, this year at the end of the year we will have a record to show it. Now Mr. Price,—by the way he just came in; I did not see him until he came through the door there, but he was on my mind—Mr. Price, coming from Wisconsin, could have told you, if he did not this afternoon—unfortunately I had another meeting to attend and did not hear his talk. He comes from Wisconsin, where, in the last six years of his work there developing this same plan of co-operation with the employer and employe, they have reduced the accidents through the entire State over 60 per cent. Now you match that reduction up against our present accident rate and you really will see what we are all of us trying to do. It is not a one-man job. Big as the Commissioner is, he can not do it and his organization would fail utterly if they did not succeed in gaining the co-operation of these men that are right here in this room to-night and those others who have been with us during the week and for the four conferences of this sort that we have had in the past.

I did not know that I was going to be called upon as a sort of pinch hitter to fill in on the schedule. We are heart and soul with you in this work and at any time, day or night, that we can help you we are here to do it. I do not know that I have anything more to say. If that doesn't open the discussion, Mr. Commissioner, then the next thing to do is to call upon some one else to bring out some of the experiences that they have had in their plants on this accident prevention work.

COMMISSIONER JACKSON: Mr. James of the New Jersey Zinc Company, will you give us a little light?

MR. JAMES: Mr. Chairman, Ladies and Gentlemen, I believe that this meeting has been very profitable to me and I am very glad to say that I have been engaged in this work for the last four or five years; and I am very much pleased to say that we have reason to believe that we have wonderfully reduced the accidents. In some cases we know we have saved some lives and we are still pressing on in the work by way of trying to prevent all accidents, by making safety appliances that prevent accidents, by trying to educate the men on that plan, and by trying to get all interested to do all that they possibly can with this end in view—to prevent accidents. We have a problem to solve at our plant like most other

plants in Pennsylvania: that is the foreigner that is with us. We have tried a number of schemes. We have brought some of this foreign help out on the safety committee. We have taken them around the plant and shown them the hazards connected with the different machines, shown them how to operate the machines and how to take care of others while they are working about the machinery. We have also gotten these foreigners together in classes, in school classes and arranged different kinds of machines in their view to show them how to take care of themselves while they are about these machines. We are trying to educate them in the ways of the American people. We have a game room and we have bowling alleys to give them a chance to come right out among the American people so that they can have an opportunity to learn the English language. Everything we can possibly do in that line is being done. I am glad to say that we know that these foreigners who have been acting on safety committees have been of great help to us. They are teaching their fellow countrymen in their own tongue. They are looking after their men; they are talking safety to them. Then again we have on the pay envelope that is handed to these foreigners twice a month a safety slogan in their own language, and we reach them in that way. In the last twelve months we have prevented a large number of accidents. I have not the exact figures to give but we know from the reports of the different departments that our accidents have been wonderfully reduced. One of the hazards we have to guard against is the accidents to men working out in the open on the trestle in opening hopper bottom cars. We are using mechanical appliances to open the bottoms. In every possible way we are tryiug to study out the foreigner so that we can best reach him and educate him as to his own safety and the safety of others. I thank you.

CHAIRMAN JACKSON: Mr. Maurer, will you kindly tell me what labor man there is here who has the real safety bug?

MR. MAURER: Mr. Chairman, the real man you had this afternoon.

CHAIRMAN JACKSON: I want another for two minutes with real punch to him.

MR. MAURER: Mr. Chairman, how about John Phillips?

CHAIRMAN JACKSON: We had him, we don't want a man we have had. I think I see Mr. Spotts over there. Mr. Spotts you give us a two minute talk.

MR. W. A. SPOTTS, Brotherhood of Railroad Trainmen, Harrisburg, Pa.: Mr. Chairman, I think you are just a little mistaken. It is my brother who is the safety bug. I was just going to say may be you had better let me go and you will hear him to-morrow and he will talk you to death.

Now I really don't know that I can say anything to interest you. I can do, better than speak. I can do things but I can not explain them, but I will say one thing: I am a railroad man and as railroad men we should be just as careful to look after the company's interest as our own interest and if we see anything that is liable to cause somebody to get hurt and we can draw the attention of the officials to it and try to have it rectified to avoid accidents. I think it is our duty to do so. Now I believe that we should all be a committee of the whole wherever we see anything that is liable to injure any of us personally or our fellowman, or that is injurious in any way, we should try to have it eliminated and done away with and something done that would be for our safety. "Safety First" has been the banner cry for a few years now. I know when I first started in railroading everybody took care of himself. If he could not take care of himself he had to go down with the rest; but things are changed. When I started railroading we used the link and

pin and many a man lost his arm through his own negligence. He was warned not to do things which he did and lost out. Now I do not know that I have anything to say to this intelligent audience; I am not a speaker; but I will say, let us all get up and be a doing and not expect somebody else to do what we can do. I thank you.

CHAIRMAN JACKSON: We must have some one from the opposite sex speak. I propose to give an opportunity to a real woman, a woman who can look after her house, bring up a family of children and do more safety, and real, great, big work in this world than many women could do if they tried their best. I want two minutes talk from our good friend and great citizen of the Commonwealth of Pennsylvania, Mrs. Semple.

MRS. SAMUEL SEMPLE, Member of Industrial Board: Mr. Chairman, you say I am to talk about anything on my mind. Just at present I don't know that I have anything on my mind particularly except the feeling that these last two days have been really very wonderful days; wonderful for the people who have been here, wonderful for the future of things in Pennsylvania, and wonderful for Pennsylvania itself. I don't think I was brought up to be very proud of Pennsylvania, and I am afraid a great many of us are trying perhaps not to be proud of Pennsylvania. The things that have come to me the last four or five years have been a great corrective to what perhaps was rankling in me and I have come to think of Pennsylvania as being one of the best, I think it ought to be one of the sacred pieces, of the earth's land to us who live here and perhaps were born here, who are getting our living here and who are going to have our living here in the future, if so be it that life runs that way; and I think one of the things that ought to give us very decidedly this viewpoint of Pennsylvania is the movement that has brought about just exactly such gatherings as this. I used to think of Harrisburg as a place of politicians and I used to think of this State House as perhaps the centre of politics, but I think of it no longer in that way because in this very room I have listened to speeches, to analyses of conditions, not only for our own State but for the country, for humanity, that have put things on a different plane for me and, I think, for other people. I have been in this room when it was filled to the doors with people throbbing with interest in human problems; and when that can be said about the State House of the Commonwealth there is something going on in that Commonwealth that is worth while and is going to make for future history and future good. Doctor Jackson has taken entire advantage of me in asking me to speak before you, but that is the only thing that really is on my mind just now, that is, Pennsylvania, and the good of Pennsylvania and Pennsylvania's people, whether they be employers or people who are employed. We are all employes in one way or another and we are all employers in one way or another. Life is very complex. We can not look at anything solely from one point of view, and all these sessions have been, to my mind so blended, that we get both these points of view and perhaps for ourselves will be able to blend them into one. I think my two minutes, my task time, are up, but I want to give just the refrain of a song that some millions in Pennsylvania sing:

"And while we name the land we love,
Our hearts delight to tell,
The story of the glory of,
The State we love so well, Pennsylvania."

CHAIRMAN JACKSON: I think the Governor showed excellent judgment, when he appointed a woman member of our Industrial Board. There is one man here I am going to give one minute, yes, I will give him three minutes. He is a

member of our State Workmen's Compensation Board. I should like you to get a look at him and get a chance to say "How do you do." I believe the man I see in the rear of the room is Mr. James W. Leech of the Workmen's Compensation Board.

MR. LEECH: Mr. Chairman, I have been delighted, particularly with the remarks of the lady who has just taken her seat. The spirit of the Conference has more than pleased me. I have heard enough since I have been present to fill me for the rest of the year. The spirit of the talk this morning by Mr. Herbert was a revelation to me, coming from my own county and from the safety man of one of the greatest corporations in this great State. It is a revelation for a safety man to tell a story to a conference like this in the manner in which Mr. Herbert poured the truth into our minds. And it is the spirit with which he goes about his work in that helpful method, in which we all join hands and work, not because we are told to do it, not because we are ordered to do it, but because we cross the line and work hand in hand that means so much. I have seen enough of that spirit here to satisfy me that this great State with her employes and her inspectors is doing a great work. I have been pleased with all that I have heard.

I may say that the Workmen's Compensation Board, in its great work throughout this State, started out with a great deal of fear and trembling, but when we met with the employes and with the largest employers of labor in this State we found that this whole State is full of good things and full of good people and we believe that the end will prove that the Workmen's Compensation Law in the State of Pennsylvania is one of the very best compensation laws within the whole United States. The results have more than justified the hopes of the sponsors of that bill. There may be some little things that will need some correction by the coming Legislature but on the whole we have met with the best of co-operation on the part of the inspectors, the officials of this State, and the great employers of labor in the State of Pennsylvania. My minute is up, Mr. Chairman.

CHAIRMAN JACKSON: The Governor evidently make another good appointment. We are now going to have the honor and the pleasure and the value of hearing from the real dean of the safety movement in government. I don't believe there is any other state official in any commonwealth of this great nation who has done so much to forward the whole project of safe-guarding the human being who works and toils as the man I am about to introduce. He comes here from a sister state. He has come here to help us often. We call upon him to help us with our expert work. He comes without hesitation; he comes freely; he comes generously, although he is a most busy man in his own State. I can not say too much in behalf of the record or the man I am about to introduce, and I am speaking to you, not for the purpose of flattering the man sitting beside me, but with sincerity and a firm belief in every word I say, and I say it to-night rather as a tribute to one deserving than as a complimentary introduction.

It therefore, of course, gives me great pleasure to introduce to you Colonel Lewis T. Bryant, Commissioner of Labor, of the great State of New Jersey.

FIRE PREVENTION—HOW NEW JERSEY SOLVES THE PROBLEM.

By LEWIS T. BRYANT, Commissioner, New Jersey Department of Labor, Trenton, N. J.

MR. BRYANT: I have noticed that the topic on which I am supposed to talk this evening is "How New Jersey Solves the Problem of Fire Prevention." Now I think we do things in New Jersey probably the same as we do them in the other commonwealths of this country which are sincerely endeavoring to solve this large problem in a comprehensive and reasonable manner.

The subject which has been assigned to me this evening is the old subject of Fire Prevention. It is very difficult to take a subject as old as this and clothe it in a new dress. It is a subject upon which we have heard much during the last few years, but at the same time it is a subject of paramount prominence and importance in the industrial life of this country and in the home life of this country. There is no one subject in the whole safety first movement I think which has larger and great ramifications. It applies not only to the industrial establishment but to the apartment house, theater, motion picture plant and the home.

It is appalling to think that during this past year the fire losses within homes alone in this country were about $38,000,000. Now it is a well known fact that in the matter of fire loss this is the most prodigal nation of all civilized nations in the world; the fire losses of the United States and Canada are probably ten times as great as the fire losses of any other civilized nation or among any other civilized people. The lamentable part of this fire loss is that so much of it is preventable, so much of it should be prevented; and we know, of course, from an economic standpoint that it represents an absolute waste. I think that is one of the shortcomings of the natural viewpoint of the American people. They read in the paper that John Jones has met with a fire loss of one hundred thousand dollars. They read further down that he is fully protected by insurance. They say, "Oh, well, one offsets the other." They don't realize that an actual loss of one hundred thousand dollars has been made, which has gone up in smoke, has not fallen upon any one person, but must be put, directly or indirectly upon the entire community. It is certain that the insurance company must take in more in premiums than it pays out in fire losses,

otherwise it would become bankrupt; so that every time a fire is prevented or a movement is adopted or promoted which will prevent fires, then the amount of money which must be put up to cover this fire insurance must be proportionately reduced.

I had the pleasure of studying the fire situation in the City of Berlin. I found there that the fire loss in a city of over three million people during the year previous was represented by a sum of less than half a million dollars. Stop to think of it, less than half a million dollars. The way that was distributed among these people or citizens of Berlin was by means of a municipal insurance scheme or company, which is under control of the city. The cost to the inhabitants was represented by the cost of the fire department during the preceding year, the cost of maintenance for the insurance company, and the fire loss during the preceding year. That then was distributed among the property owners of the three million people of Berlin, and you can readily see what a small per capita tax that would be, practically nothing. Now, the fire losses in this country and Canada, plus the cost of the maintenance of the fire departments—and that is a peculiar thing about the American people again, while their fire loss is greater than any other people of long civilization they expend more money in the maintenance of fire departments for the purpose of putting out fires than any other people. In other words, instead of getting at the root and branch of the subject, the preventive measures; they are maintaining their efforts to put the fire out after it has once occurred.

The problem which confronts the American is one and the same, of preparedness, the prevention of fire. Now, how can these fires be prevented? That has been one of the questions associated with my job for many years and I have been interested in watching the various statistics which have been gathered together, as time goes along, to see whether there has been a real reduction in fire losses throughout the country. During the year 1915, I do not know the precise figures, but approximately the fire losses in the City of New York, as compared with those of 1914, represented somewhere in the vicinity of 1,500 less fires, and in the City of Philadelphia represented approximately the same amount 1,200 to 1,500 less fires. In the City of Cincinnati the fire losses for those two years represented a reduction of 20 per cent in the number of fires and 64 per cent in the value of property destroyed. Now these are a few of the bright spots and they indicate without question that this movement for fire prevention, which certainly has received a very considerable amount of attention during the last few years, is now bearing fruit and it is one of stupendous magnitude. I do

not know that we can realize it without making comparisons which are more or less familiar to us all. The amount of money which it has taken this country to create the wonder of the world, the Panama Canal, that wonderful engineering feat, is stupendous, but the fire loss in the United States, plus the fire loss in Canada, to which you sioulcl add the maintenance of the fire departments, in two years would represent a sum of money sufficient to complete that entire engineering feat.

Now I was supposed to come here to-night and tell you how New Jersey meets this situation. I think New Jersey has met this situation in an absolutely American fashion. Some years ago they had a disastrous fire in a schoolhouse in Ohio. You may recall the circumstances. The children came rushing down the main stairway of the building, got to the exit doors and found the exit doors were locked or opened inward, and there were a large number of those children killed at the foot of those stairs because they could not get out of the building. Ohio immediately passed regulations governing the condition of the construction and maintenance of their school buildings, which I believe are far better than those of most any other commonwealth.

Take the Iroquois fire in the City of Chicago. Why, after that happened the theaters of New York were closed for weeks, a number of them. The City of Chicago passed most drastic regulations, regulating theater traffic. In our own State we had the first of the very serious fires in what is known in our State as the High Street Fire. This was a four story brick building, with a single thickness of floors and a stairway in the center of the building enclosed in a wooden partition. It had a fire escape approximately on each end of the building. The fire escapes were not the type of fire escapes required to-day, and which should be placed on every building, but they were the accepted type at the time they were placed on the building. In broad daylight, 9.30 in the morning, with a fire department within two hundred feet of the building, immediately across the street, twenty-six girls were killed under most horrible conditions. The alarm was sent in, and every possible preliminary precaution that should be taken, every possible safeguard which should be expected at a time of that kind was violated. The girls were not notified of the fire. The fire burned on the floors below for some minutes. The man who was sent out to get some sand to put out the fire took two buckets and went down to the engine room, got the sand and came back to the third floor without notifying the girls on the fourth floor of the fire. The first notification they had was the fact that they saw smoke coming up through the floor. The door leading from the third floor was locked on the

inside. It could have been opened from the inside, but the forewoman inside insisted there was no immediate necessity for an outpouring from that building. She held the girls there and would not allow the girls to leave immediately. The girls then went back for their clothes; that was fairly demonstrated, and I want to say to any official who has the responsibility of regulating and protecting the lives of thousands of workers of these industrial establishments, that the first thing to teach the foreman to do in case of a fire is to have all employes leave the building. More people are killed and lose their lives through going back for their clothing than by any other means. Now this woman in charge of the girls on top of that building was a high grade woman; she must have been or she would not have been in charge. The last girl who went down the fire escape on the front of that building saw this woman at the fire escape when she left. She had on a white waist. She then disappeared. It was some moments before she was seen again. When she was seen again she appeared three windows away from where the fire escape was located and had upon her shoulders a cloak, showing that she had gone to the dressing room and then on account of the smoke or something else was unable to find the fire escape. She sat on the ledge of the window as long as she could stand the heat and then finally dropped out of the window into eternity.

I remember distinctly reading the description of the Asch Building Fire which occurred in New York, I believe, some four months after the High Street Fire. I was particularly impressed with the description given of one of those poor working girls as she sat on the ledge of this high building ten stories from the ground. Before she took the leap into eternity she took from her head a hat and laid it on the ledge alongside of her and jumped off into space. Anyone who knows anything about shirtwaist operators knows that they do not work with hats on. It is as natural for these girls to go for their best shoes, hats, or cloaks as it for others of us to follow the natural inclinations which prompt us to do things. This is the first thing to be instilled in every industrial worker. I know of one very well regulated concern in our State in which, when a girl is hired to work in that establishment, she is taken to the superintendent's office and told, "In the event of a fire, you leave the building; do not go back for your clothes. If a fire occurs and you lose your clothes this firm will be responsible for them."

Now the State of New Jersey, after this fire, acted just exactly as most people do. It passed the most drastic regulations for the protection of industrial workers, men, women and children, working in factories or establishments, that probably exist in any place

in the world and it did not touch the schoolhouse, did not touch the theater, did not touch the office building and did not touch the hotel, but it took the particular thing which the interest or attention of the public was focused upon—that was the factory—the same as Ohio took the schoolhouse; the same as Chicago took the theater; so that anything I may say in defence or in praise of what has been done in the State of New Jersey must be confined especially to the work which it has accomplished in the protection of the industrial workers in the factories of the State. Now that fire illustrated, as I say, a number of things. It was the finest exhibition of what ought not to be done that I can imagine and I have studied all the great fires that have occurred in recent years. It demonstrated first, the absolute necessity of adopting some method of immediately notifying the operators in the building that a fire exists; second, that that notification be so arranged that when it is given they will know where the fire has occurred. Now, when you ring an alarm in the city the fire department does not ring a general alarm indicating that there is a fire somewhere in Harrisburg. In a large industrial establishment it is necessary, particularly if you are going to have a fire brigade or should have a fire drill, to have the notification include the point in the factory where the fire occurs; third, that there must be adequate means of egress. Now the word "adequate" is capable of a great deal of latitude in its administration. I mean a means of egress that can be used a reasonable length of time after a fire has occurred. Then there must be an orderly fire drill by which the operatives leave the building without panic. I don't believe so many people actually burn to death although I must admit more people have burned to death since that time than I anticipated would. I am most fearful of a panic. Some awful panics have been caused in buildings where no fire existed within them. I was reading recently of a fire cry in a factory in Philadelphia where the girls rushed from the building on account of a leaking gas jet on one of the floors. I know of one case where a deaf mute was trying to operate an elevator, got his hand caught in the door, and gave off a series of sounds which were unintelligible. The occupants of the building did not know what it was at all, but someone thought it was fire and it caused an immediate stampede from the building. Some six people lost their lives on account of a cry of fire, which had gone up.

Now, with those three preventive measures well incorporated into a factory management, the notification by the alarm system, the fire drill and the fire egresses, it would seem as if you had made every reasonable measure of preparedness for the safety of the life

and limbs of the operatives. But I think that any well conceived fire prevention scheme should go further than simply the conserving of the lives of the operatives. I think it always ought to take in the physical property of the owner of the building. This is a very delicate thing, I know, to broach at times, in the arrangement of a fire brigade in the factory. Frequently lives of members of fire brigades have been lost because they stayed to fight the fire. That is a risk that comes to the firemen of the city, the soldiers on the firing line or anyone else who takes up a specific duty in life.

I have firm belief in a properly arranged scheme of industrial protection that the protection of the physical property of the owner should enter into it on precisely the same basis as the protection of the lives and limbs and health of the operatives. Now, that can be accomplished, first, by good housekeeping and when you arrange the housekeeping in the industrial plant so that fire will not occur in that building you are protecting not only the physical property of the owner of that building but of necessity you are protecting the life, limb and health of every one who works in the building. Now that one subject of good housekeeping, and it is most universal in a large sense, is to my mind ninety per cent of the fire prevention movement. We have attempted—and I think that is the one thing which we have done best in our State—to place an individual responsibility on the part of some person to see that each particular thing is done. I am a very great believer in that old adage, that "What is everybody's job is nobody's job." We have started out with the appointment of one person in each industrial plant who is known as Factory Chief.

It is the duty of the factory chief to have direct control over the general housekeeping of the plant, to see that unfrequented places, such as under stairways and the cellars, are kept clean of any refuse or any combustible material; to see that all the loose sweepings are gathered up and placed in metal cans at hand; to see that oils and wastes are removed from the buildings at least once in every twenty-four hours; to make an examination of the fire doors and see that they are in operation; to see that the entrances and fire escapes are capable of use; to see that the fire escapes are kept clear of ice and snow in the winter; and generally to see that the tools which are placed for emergency use in case of calamity are in place and in condition to use as expected.

Now there is another matter which we have proposed in that connection, which I think is exceedingly important and which I hope to take up within the near future. It is under the general head of factory lighting, with particular reference to fire hazard. You take at this time of the year—I noticed as I came through the State

of Pennsylvania from Philadelphia this afternoon—the large number of factories that are lighted, artificially lighted. The operatives are working there under those conditions. Now what would happen in a large factory, particularly where a number of women or children were employed, in the event that the lights should suddenly go out and some bright individual cry "Fire?" If the factory was lighted under those conditions, without some independent source of lighting control for the stairways, and entrances, and the egresses to the fire escapes you would simply be promoting a tragedy. It is surprising to me that it has not occurred before, for I find so many things bring on a panic that I do not see why that has not happened and made a great stampede and caused serious loss of life to operatives working under those conditions.

Another thing which we feel we have done pretty well in New Jersey is the construction of fire escapes. I have frequently heard the old type of fire escape compared to a human gridiron and I do not know of any better description. I have talked with the people who saw the Hunt Building Fire in Philadelphia some years ago, in which the operatives came out on the fire escapes and ran down as far as they could, when the flames and smoke bursting out across the fire escape caused them to rush back again and they could not get down and when the heat got too great they dropped off into the street. This is what will happen where the old type of fire escape is permitted to run past unprotected windows. That was demonstrated then and has been in almost every fire, the inavailability of such fire escape after the fire has gained headway. Now we have insisted and I believe every state should have that incorporated in its law, that all fire escapes erected, whether on new buildings or old buildings should be so constructed—having a protected area on the building; that all the entrances to the fire escape and all the windows past which the fire escape runs should be fireproof; that is, the frames should be metal or metal covered and all glass used in these windows and doors should be wire glass, so that if a fire does occur it will be kept within the building. Now we have equipped a great many factories with just that protection. We have had a number of fires in these buildings since this equipment has been put in use and I have not found a fire escape that could not be used and where the wire glass and metal protection had not kept the fire in the building. We have had a number of cases where operatives in buildings escaped by walking past the very rooms in which the fire and smoke were on account of these fire protected windows.

Another thing in this fire prevention movement which we learned from the Newark fire is insisting on having a quick method of

reaching the fire escape from the room. Up to that time it was permitted to have these entrances to the fire escapes by means of a window, which would be raised. The operatives would then climb through the window and go down the escape. Now under the law we can compel a higher method of protection. In this particular building the inspector came there and found a small window had been constructed opening on the fire escape and a flight of steps leading up to this window. What happened? As soon as those girls found an actual fire in the building, they stampeded for this fire escape. The authorities claimed that the steps broke. I don't think they did. What I think happened is that the steps pulled away from the building; they were not nailed sufficiently strong, and the strong and sudden impact when the large number of girls struck them caused them to break away. That caused a panic among the girls, many of them running to other portions of the building. Some of them rushed to the opposite end of the building, and after the ruins had cooled down sufficiently to let the firemen go on the premises they found the bodies of six girls in the opposite corner of the building where they rushed to find another fire escape by which to leave the building. If there had been a proper method of leaving the building to reach the fire escape, which must, in my opinion, be a door to get out of as soon as possible, the lives of a certain number of those girls would not have been sacrificed.

We require the entrances to the fire escape to be by means of a door opening outwardly where possible. This door, except on the top floor, must be of fireproof construction, and all windows opening upon the fire escape must be of fireproof construction. Now the next unfortunate condition that confronted those girls when leaving the building was getting from the lower platform to the ground. Under the old law at that time, unless the fire escape was more than a certain height from the sidewalk, we permitted the use of the old drop ladder, which was taken and hooked on the bottom platform. The girls were supposed to go down this ladder. What happened? I have always contended that when the girls got to the heavy ladder they dropped it to the ground and there were from fifty to sixty girls on this fire escape with no method of getting to the ground. Fortunately a worker going by, hooked up the ladder and helped the girls to get down. We have overcome that by the cantilever stairway which is in place at all times. A person walks on the stairway and it commences to go down and remains on the ground until released. We have had a number of actual tests of this stairway and they worked out splendidly.

Now as I said in the beginning, it is very difficult to put a new dress on this old subject. It is one which is very near to my heart because I want to say that anyone who occupies the position which

I occupied at the time of this High Street Fire, when I had on my conscience the death of some twenty-six girls, will not lightly regard the responsibility. Night after night I lay awake in my room turning over in my mind to find something which I might have done during the years previous to that fire which would have prevented this wanton loss of life. I tell you anyone who has ever gone through that trial will always have a very serious and considerate respect for the fire hazard. I do not consider it the most important hazard among the various complications of the Labor Department. I do not think it is as important as the general welfare of the factory worker, the promotion of healthful conditions in the factory, the elimination of dust, the providing of wholesome conditions of employment in the largest way, but I do consider it of the very greatest basic importance in the whole scheme of protection because when you want the protection you want it badly, and it makes very little difference in case of fire whether your building is well provided with ventilation, whether your machinery is well protected, whether you have the finest type of sanitary arrangement, whether your toilet conditions are the best, if you are not provided with adequate and safe means of egress they amount to very little. I thank you very much.

CHAIRMAN JACKSON: We are certainly indebted to Colonel Bryant for this excellent statement of the principles of proper fire protection.

We have had in this State a rather curious manifestion of confidence toward the government. A party of women, alumnae of Bryn Mawr, decided that, instead of going into an activity of their own, yet wishing to be of service to the country, they would give their aid directly to a governmental agency. In doing this they appointed a woman to study in co-operation with the Department of Labor and Industry here the best way of eliminating the hazard to the life of women workers in this Commonwealth. They searched with much care to find the right woman. After that search or during that search they lit upon one who is filled with the desire to be of service to her fellow being, and who has largely given her life to that kind of work, and who has in addition a comprehensive understanding of factory conditions to specially fit her to take up this subject. I refer to Miss Florence L. Sanville, Bryn Mawr Fire Protection Study, Bryn Mawr, Pa., who will now speak to you upon the subject of Co-operative Effort for Fire Prevention.

MISS SANVILLE: Mr. Chairman, Ladies and Gentlemen, I feel that I have been very fortunate in having this title given to me for my paper to-night. I have only been here at the Conference for a few hours, but I have been here long enough to put my finger on the mainspring of what this Conference is, judging always from other things, and that is the need and effectiveness of co-operative effort, and since that is the mainspring of the Conference I feel that I am very fortunate indeed in having been assigned a subject which has that as its task as it were. There have been various kinds of co-operative effort, and, in fact, the idea of co-operation to-day in any social or industrial reform in any program at all, is really an accepted element. I think that the question now is rather perhaps an extension of this co-

operation idea to the many groups; between groups that in the past have seemed superficially disconnected, groups which have seemed unrelated; and it is with this in mind that I have thought of presenting this paper this evening as a quite new adventure in co-operation. Doctor Jackson, I think, has suggested enough to indicate what the start of this adventure in co-operation was.

I think for almost the first time in giving a public address I have put down in writing what I want to say because I have been so impressed with this whole subject, with the pressing need, with the call of the subject upon us Pennsylvanians that I feared if I did not put it down in writing there would be no time this evening for the motion pictures which are to follow; so it has been a matter of safety first that I have a paper here this evening rather than the thoughts in my head.

CO-OPERATIVE EFFORTS FOR FIRE PREVENTION.

By FLORENCE L. SANVILLE, Bryn Mawr Fire Prevention Study, Philadelphia, Pa.

The fact of co-operation is to-day an accepted element in any program of industrial or social improvement. The question now is rather the extension of this co-operative effort to groups which heretofore have seemed unrelated. The Bryn Mawr Fire Prevention Study represents a new adventure in co-operation—the co-operation of a body of private citizens with the State as represented in one of its great official departments, the Department of Labor and Industry.

The gift originated in the minds of a group of Alumnae of Bryn Mawr College who wished to commemorate their twenty-fifth anniversary by a gift to the public. This idea happened to take root almost immediately after the disastrous Triangle Factory Fire in New York; and the need for greater safety in the working conditions of women and girls impressed itself upon this group of college women as perhaps the most immediate. They therefore offered their co-operation to Commissioner Jackson of the Pennsylvania Department of Labor and Industry in carrying on a study of Pennsylvania conditions. Dr. Jackson's acceptance was unhesitating and hearty, and he further urged that the study should result in a concrete set of recommendations based on the conditions as they were found to exist The ultimate hope of this group of women as expressed in the foreword of the forthcoming Report of the Study, is "To lessen the risk of death from fire for the more helpless members of the community, and to show the desirability of making such gifts directly to the State, instead of duplicating and confusing the work of the State by private effort."

The nature of this undertaking at once loosed many springs of interest in its behalf. A Board of Advisory Experts—eleven men of nationwide reputation in fireprevention effort, placed their services at the disposal of the Committee, and the Department of Labor and Industry made its effective machinery readily available for the necessary fieldwork. The University of Pennsylvania assisted in carrying on the research work that was involved, and the legal side of the Study was contributed by a member of the Philadelphia bar.

With such a foundation upon which to build, it was realized that no superficial report would meet the situation, but only a statement which went frankly to the fundamental facts for the prevention of fire and for the safeguarding of lives. Two elements were recognized in the study at the outset, viz: that certain factors are essential for the prevention of fire, and must be vigorously upheld; and that the potential failure of preventive devices must always be reckoned with, and adequate means of safety provided to meet such an event. Therefore, what is called a Fire Prevention Study has in reality been also a study for the safeguarding of life in the event of fire.

The need of effective co-operative effort for securing these ends will be more thoroughly appreciated if there is placed before you a few outstanding facts which this study has revealed. The unwelcome truth can not be too often burned into the consciousness of the American public, that in our own country the average per capita fire loss yearly is $3.02 against the corresponding loss of 33 cents in the six leading European nations (of course under normal conditions). The only way to escape this distasteful comparison is by changing the basic facts.

There are many complex reasons why we are thus wasteful of lives and property through fire, but the placing of responsibility for fires with resultant penalization opens up a subject too extensive for discussion in this paper. The concrete results of our lax methods in this direction are however readily apparent in the conditions which the study has revealed. Without going too greatly into details, a few significant facts from the field survey will indicate these conditions. The establishments which formed the basis of the field survey, were chosen from the more important women employing industries, and the choice was directed so as to be as far as possible representative of average conditions, with a few exceptionally poor, and a few unusually good establishments included. Of the 111 places thus investigated, 66 had no system whatever of fire signals (we are trying to get away from the word alarm); 89 had no fire drill; 91 were lighted in part or altogether by open unprotected gas jets, frequently burning near inflammable material;

41 (to our extreme surprise), were heated by ordinary coal stoves in the workrooms; in 55, smoking was permitted.

Again, of these 111 places, 59 lacked an automatic sprinkler system; in 45, the sole reliance in case of emergency, was the open exterior fire escape, which, except in 9 cases, descended past unprotected openings in the wall. In 70 places the exits were either locked, difficult of access, or obstructed in some manner.

All variety of practices were discovered, which provided a constant invitation to fire, such as the storage of paints and varnishes in furnace rooms, close to fresh heaps of hot ashes; containers of alcohol, varnish, and shellac, without stoppers or corks, in rooms where matches were used regularly for gas burners; and inflammable waste everywhere. Smoking was a constant menace, and there was a curious difference in the standard of observance of the "No Smoking" regulation, as practiced by members of the firm and managers, and as expected of the workers. While the "No Smoking" signs were plentifully distributed through the workrooms, we were frequently received by the manager of the establishment, with a lighted cigar in his month and thus escorted throughout the workrooms.

Here then, we have ready-made the elements of potential disaster —careless housekeeping, open lights, scarcity of firecontrolling equipment, and inadequite exits. The report which has now gone to press, and which will present the findings of this study, will contain a series of recommendations to the Industrial Board of the Department of Labor and Industry, designed to overcome as nearly as possible these menacing conditions. We bespeak your support of these recommendations, that they may be adopted and put into force as statewide regulations. It is worse than futile to draw up new regulations, and yet to permit conditions to continue which have failed in the past to meet critical situations, and which have already cost human lives.

Certain elements seem now to be established which any adequate regulations must recognize. One of these is the cruel inconsistency between the safety requirements in old, quickburning buildings, and the requirements in new, or modern structures. The very construction of an old building is often a constant menace to the lives of the workers within it; yet we permit conditions to persist—high, narrow, difficult, often almost inaccessible window exits to fire escapes, which are themselves the merest mockery in times of danger; while on the other hand, an integral part of the fireresistant, modern building, must be a smokeproof stairway or tower. That is as it should be; but this report will insist that some real means of safety be provided for the less fortunate workers in the old quickburning buildings.

Once for all, the ordinary exterior fire escape, with its open slats, and steep stairs descending past unprotected wall openings, must be repudiated as a means of exit. In the face of facts, we can no longer cloak ourselves in the delusion that this is other than a frequent invitation to destruction. When we refer to an adequate means of exit from an upper story, we must mean an enclosed, fire-resistant stairway; and we must recognize that under all ordinary circumstances, at least one such stairway shall be required from all upper floors, in store and factory buildings. Moreover, in estimating the need of such exists, there have been borne in mind the two facts, that even in a successfully fireproof building, the contents—including the occupants—are not necessarily fireproof; and that any protective equipment devised to quench or retard fire, may, for one of various causes, fail to operate at the critical moment, and in no case is proof against panic.

A grim fallacy now written through our laws, is the theoretical immunity of second floor occupants from danger. At present in Pennsylvania no means of safe egress is required from a second floor. And yet the newspapers last spring, described a fire in a Philadelphia textile mill in which the only escape for the girls on the second floor was through the piling of bales of yarn under the windows, upon which the women jumped. And still more recently, on the 17th of last month, nine people, six of them women, lost their lives in a two story building in Long Island, when they were only 16 feet from the ground and safety.

Sometimes persons who try to go to the fundamental elements of a situation, are criticised as mere visionaries, but I ask whether it is not more visionary to allow statutes and rules to stand which in practice have failed time and again, than to write regulations which go far enough actually to accomplish the purpose for which they were drawn? In this matter, therefore, we stand for the practical achievement of results, against any halfway policy, which while promising many things, in fact achieves but little.

For the achievement of real results, the co-operative effort which has been the keynote of this Study, is essential. It must be recognized that no one element in the community is wholly free from responsibility in any condition which affects the welfare of another element. Recognition of the responsibility of the general public, was readily accorded some months ago in the interest displayed in the dangerous conditions of an establishment in Philadelphia; and the practical results achieved by the pressure brought at that time was a tribute to the power of public sentiment when systematically directed. Still more definite responsibilities rest upon certain specialized groups. The duty of employers and workers is obvious—

the former, to set a high standard of order and vigilance, and to maintain it scrupulously; the latter, individually, to exercise strict care in personal habits, and collectively to hold alike their fellow workers, and the management or firm up to the accepted standards of housekeeping details. For this, as for every other industrial reform, organization of the workers is imperative. The architects of buildings have much to be responsible for in the relative emphasis which they place on safety and the elements of utility and beauty in the structures which they plan. Of supreme importance is the creation and maintenance of a uniform, high standard among the inspectors of the Department of Labor and Industry, as well as other state or city officials in charge of the enforcement of fire prevention regulations. It is demoralizing in the extreme, to the maintenance of order and care in detail if this is regarded as trivial by visiting inspectors; and the function of painstaking educators in seemingly small matters must be assumed by these inspectors if any real improvement is to be expected. The laws and regulations can bring about structural changes; but the underlying elements of good practices in factory and store housekeeping are a matter of constant and diligent education. Only by the combination of all these activities and interests can we hope to raise our standards in the State.

I think Colonel Bryant's closing words of the responsibility which he felt, we ought to take here ourselves, as a solemn warning to get together and made these things possible, to stand back of fundamental, real, solid regulations, making them a legal fact to obtain proper protection for industrial life to-day.

CHAIRMAN JACKSON: The next speaker, and the last, is a fire fighter. Miss Sanville and Colonel Bryant are fire fighters in a way, but the next speaker is a man who is actually on the job. He was connected with the fire prevention service in the City of New York. He has developed in a Philadelphia factory, which is filled with inflammable and combustible materials, a system of fire prevention and he is recognized as an expert in that work.

I take pleasure in introducing to you Mr. Philip S. Tilden, Fire Chief, Harrison Bros. & Co., Inc., Philadelphia, Pa., who will speak to you on the subject of How the Factory Fire Department can be made Efficient.

HOW THE FACTORY FIRE DEPARTMENT CAN BE MADE EFFICIENT.

By PHILIP S. TILDEN, Fire Chief, Harrison Bros. & Co., Inc., Philadelphia, Pa.

MR. TILDEN: Mr. Chairman, in the first place, my friends, I am deeply appreciative of the honor you have done me in thinking that I could tell you how it is possible to make a factory fire department

efficient, because I feel that there are many here who are equally as well versed in this subject and who could take it in hand and possibly do it more justice than I could. Secondly, I understand that a half hour has been given to me for this talk. It has been said that the man who could not tell his story in less than half an hour is either a genius or a bore. I am sure I am not the one and I hope I am not the other. I will simply take a few minutes to explain what we are trying to do at Harrison Brothers & Company in order to make a private fire department efficient. Of course, it must be realized that there can not be any special standard for the making of a private fire department efficient because the means adopted in a place like Sears, Roebuck and Company for instance, would be very different from those in a place like Harrison Brothers and Company. In the first place, Sears, Roebuck and Company have a number of factory or loft buildings. Their buildings are used for different purposes than ours, some are used for men and some for women, and are close together, and they must have a little different system than we have at Harrisons' or at other places where conditions would be like ours.

This is the problem we have at Harrisons'. We have there a little city, and it is composed of 91 buildings. These buildings are all the way from five stories high to one. They are all utilized for manufacturing, and Harrisons' is the only company in the country I think, that manufactures paints, varnishes, and chemicals, so you see we have the two risks which are most feared by the fire insurance companies, and therefore we have to do everything possible in order to prevent fires.

We began in the first place to try to make the Department of Safety and Sanitation, in which I have the police and fire problems, a success. We tried to make this a big thing, if you please.

Intimately tied in with the Fire Department is the watch system in which we have a day watch and a night watch; the day watch composed of ten or twelve men and the night watch composed of from twenty-four to twenty-six men, depending on how many men have a night off or may be sick, or absent for some other reason. When it comes to employing the watch our department gets busy and it has a blank which the applicant must sign and certify to and which includes among the number of questions the man's life character, so as to see that we do not employ anybody whose character in the past has not been just right. Where we can, of course, we get pensioned firemen and pensioned policemen. Sometimes they have a fight together but we try to gloss that over; but if they come to us with a good reputation from the Chief of the Fire Department or Superintendent of Police they are generally pretty good fellows. Those men then start in on their work, day and

night, and work under the Newman Clock System. The dials are turned in every day and then my man goes over these dials and notes all the misses and makes a memorandum of them. In the first place, he takes the timing of the clock to see that each clock every morning and each clock every night is standardized by a standard clock in the plant. Then he records that each clock is either O. K. or one minute fast or two minutes fast. Then underneath he puts O. K.—O. K. for the numbers of routes which we have. That means that every station has been punched on that night on that route. Then he may record Clock No. 1, Station No. 7, missed the 12 o'clock trip. That comes to me in the morning. Then my assistant sends a memorandum on a regular blank to the captain of the night watch, notifying him that watchman number so-and-so on trip so-and-so has missed station so-and-so, and he must explain it. The excuses, of course, are various. Sometimes a new watchman may get confused, sometimes the president is holding a session in his room and has requested that the clock in his office be not punched, and then again a watchman thinks he has punched the clock and he has not; but he must always report why he missed a station or something happens to him.

When we started on this fire prevention business we divided our factory up into what we called zones and in order to preach fire prevention to the principal officers of the Company I took the assistant of each of the staff officers and made him a fire inspector, dividing off our plant into zones, one to eight. They made an inspection of every building in their zone once a month as they had the allowance, taking half a day now and two hours now and again, but every thirty days they had to report. Then came the War, and then, as you know, every chemical house got busy and they have been busy ever since, so I had to abandon that system. Then I appointed a regular fire inspector, a man who was acquainted with every building in the plant and who knew all the byways and highways etc., and could tell when anything was wrong. He makes constant inspection. He is on the job all the time. He turns in blanks to me which have on them, the number of the building, the portion inspected, and the condition found. If the condition is O. K. the form is simply stamped "filed". Then he may report that the electric wiring in a certain building is detached or the woodwork or insulation has come off in some way. In our factory, you remember, we have a great deal of acid fumes that occur on the wires unless they are thoroughly piped and where they have not yet been piped the insulation wears off. Then he may report that rubbish has been found in one of the corners. This I put in turn on a form to the superintendent of the plant who sends it to the foreman of the building and that must come back to me as having been completed. That

blank is kept on a follow-up system until returned, and if not returned in due time we find out why it is not returned. Probably the superintendent has thought that there ought to be more done than the inspector has suggested, as a consequence of which it takes more time. This system is kept up constantly in our plant, in 91 buildings and in the streets.

We have on the grounds 45 of our own high-pressure fire hydrants and we have 12 of the city fire hydrants. We find that the Fire Department—this may be of service to some who have that dual system—is always anxious to tie up, in case of fire, to our own high-pressure hydrants because they have only a gravity system and not a great pressure, while our pressure can be brought up if necessary to three hundred pounds, but which carries normally a pressure of eighty pounds, which is all that the majority of firemen can stand at the nozzle, and we get eighty pounds pressure at the nozzle whether we have one line or twenty. So in order to designate the city hydrants to which the engines, if they come into the plant, should tie up we had blue electric lights put over the city fire hydrants and now the engines which come in tie up only to the blue lighted hydrants, and if they start on the hydrants on which there are no lights they are told to get away from there, that it is a high-pressure system, and to get on the blue lighted hydrants.

The previous speaker spoke about signs in plants. We have signs all over the plants in regard to smoking, carrying cigarettes or lighted matches, and on the bottom is stated, "Under penalty of dismissal". The Fire Marshal of Philadelphia sent me down some of his signs which were put up in accordance with the law. He thought that if the law said there was to be no smoking that there would be none, and that would be the one thing which would prevent a man from smoking, so he wanted those signs put up in the factory. The superintendent sent back word and said "Please send me more of your signs and take away the Fire Marshal's signs; the men don't care about the law, but they hate to get bounced". So we took down those signs and put up our own sign entirely, which mean,—and it means what it says,—that a man found with matches other than safety matches or found smoking, except in certain places where they are allowed to smoke, will be dismissed. And the president of the corporation and all other officers obey this rule.

Another thing we are careful about is whom we admit to the plant. Of course, we have to admit men at all times outside of the regular employes. We have drivers coming in with stuff; we have drivers with asssistants coming in with stuff; we have contractors and their employes who are working always in the plant at some place; and so each division chief has a pass book in which are applications for passes. He makes out a pass or rather a request for a pass. That

is sent to the gate-house numbered, and a duplicate is put into a box which comes to our office and then the man gets the pass. That pass he must put on his coat outside and if that pass is issued for the morning and is found on him by anyone of the watch in the afternoon the man is taken to the watch-house and either made to get a new pass or questioned as to why he is in the plant after the time he is supposed to be there. So you see that every possible precaution we can think of is taken to prevent fires in the plant.

Now, that being done, then comes the fire extinguishment question and that is somewhat easier, we think. Right there are two considerations which must be considered in the matter of fire extinguishment service in plants and they are these: Whether or not your plant is so situated that you get ultimate assistance from a paid fire department or whether you must fight all your fires yourself. What we must do at Harrison', of course, is to keep the fire down until we can get the aid of the city Fire Department. We have in Philadelphia about seven thousand fires a year, that is in the city. Out of that number I imagine there are from four to five thousand that they call local or what in some towns are called still alarms. They are telephone alarms which only call for one company. When we have a fire in the plant we sound the alarm and then at the same time, is automatically thrown off, a hook which connects with the nearest city fire engine company. By telephoning at nine o'clock each morning that system is tested, and then if that bell rings in that engine house at any other time than nine o'clock in the morning they respond. Then we also have a city fire alarm bell in our plant and if this engine company goes out on an alarm any place in the city, day or night, that is recorded by the man who is on duty in the watchhouse, on the blackboard, then if we have a fire in our plant during the time that engine company is out, we pull the box. You may ask why we don't pull the box any way. The reason is the terrible distance that the fire companies in Philadelphia have to travel in order to get to our plant and the number of small, incipient blazes which are put out sometimes without the aid of the engine company, and sometimes by our own fire department with the aid of the city engine company above noted. But another point I want to impress on you is that we never take any chances on our own department. If we have a fire we pull the hook for No. 47 engine and then when they get there if it is necessary to pull the box, or if we think it necessary we pull the box before they get there, we never take any chances without calling the City Department and that brings a battalion chief there. We have our own high-pressure service and we have our own hydrants, and we have our own fire department consisting of about forty men in the day time and about twenty at night. Of course the difference in the day and the night force is due

to the number of men who are working in the plant in the daytime and the number of men who are working in the plant at night. These men all get regular fire pay, independent of their wages. We can handle a fire with less than either of those two numbers of men, but in the night, of course, we take less chances on pulling the city box than we would in the daytime. We have in use in our own Department apparatus which you gentlemen are familiar with, which consists of the ordinary fire trucks, hose wagons, and chemical engines. It is not necessary to dwell on that.

There is one thing I want to impress on the men here who have problems with fire departments and that is the wisdom of allowing the chief of your department or the man who is in charge of it to join the International Association of Fire Engineers, which is composed of the chiefs of all the fire departments of the world—not America, but of the world. At the last three conventions, of course, we had no one present from abroad except from Canada, owing to the war. I think your men will get information from these conventions which will pay for the small fee which is charged for membership and for the time and money expended in going to the meetings. I want to mention a single incident that occurred at our plant where we have this high pressure system. We had no relief valve. We had shut-off nozzles and if we shut off the pipe at the nozzle the pressure would be so great from the hydrant to the nozzle, especially on short leads, it would burst the hose. At one of the conventions I saw the Larkin Relief Valve which was made especially for high pressure systems. The valve costs forty-five dollars and in one fire we had I can trace to it the absolute saving of over five thousand dollars and possibly the saving of two men's lives—a little thing, you say but it is always these little things that cause us trouble, and the thing to do is to keep away from them. We have put in two more Larkin Valves, which have in a large measure paid for themselves. I think the money spent in attending these conventions is very well spent.

I think that is all I can tell you that will be of interest to you. There are a lot of details that you do not want to hear about and you will have the moving pictures which will show you some of them. I certainly thank you, ladies and gentlemen, for your very kind attention.

CHAIRMAN JACKSON: We will now show several reels of motion pictures at the conclusion of which the meeting will stand adjourned.

(Motion pictures were then shown: "The Curse of the Forest," courtesy of the Pennsylvania Department of Forestry. "Carelessness and Caution," courtesy of the Eastman Kodak Company, showing the methods of fire prevention in the works at Kodak Park, Rochester, New York."

The Conference then adjourned to 9.30 a. m. Thursday.

(PROCEEDINGS CONCLUDED IN THE MARCH ISSUE.)

MONTHLY BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

JOHN PRICE JACKSON, Commissioner.

CONTAINING:

ADDRESSES AND DISCUSSIONS

FOURTH ANNUAL WELFARE AND EFFICIENCY CONFERENCE

Department of Labor and Industry, Harrisburg, Pa.

November 21, 22, 23, 1916

This issue concludes the proceedings. The first instalment appeared in the Monthly Bulletin for February.

MARCH, 1917

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1917

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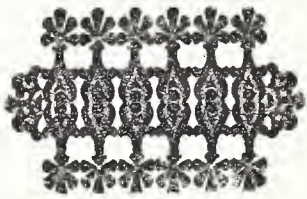

Form H-3-A

ACCIDENT PREVENTION POSTER

Number 11.

8 Men Killed—Each Death A Preventable Accident

1—Workman engaged in hauling load of cut wood. Load toppled over on him and he died of his injuries.

PILE ALL MATERIAL SAFELY.

5—Five workmen recently killed in different parts of State coming in contact with live wires.

PROPERLY PROTECT ALL ELECTRIC WIRES.

DO NOT TOUCH WIRES UNLESS YOU KNOW DANGEROUS CURRENT IS CUT OFF.

1—Workman burned with hot metal. Injury not reported and not properly dressed. Infection set in and he died.

REPORT ALL INJURIES AT ONCE AND RECEIVE PROPER MEDICAL ATTENTION.

1—Crane lifting planks. One plank slipped from load and hit workman on head killing him.

KEEP FROM UNDER SUSPENDED LOADS.

8 Persons Unnecessarily Killed.

SORROW, SUFFERING, POSSIBLY WANT—ALL AVOIDED BY CAREFULNESS.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF LABOR AND INDUSTRY
JOHN PRICE JACKSON, Commissioner

ACCIDENT PREVENTION POSTER

Number 12.

Infection Often Results in Death

SLIGHT INJURY TO HAND DID NOT RECEIVE PROMPT MEDICAL ATTENTION. INFECTION SET IN.

Report all Minor Injuries at Once and Get First Aid Treatment.

You Will Save Yourself Much Pain, Suffering, Loss of Time and Wages.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF LABOR AND INDUSTRY
JOHN PRICE JACKSON, Commissioner.

ARE THESE ACCIDENT PREVENTION POSTERS ON YOUR SHOP BULLETIN BOARDS?

They are reproductions of two of a series of posters, each 8½ by 11 inches,—issued free to Pennsylvania industrial establishments by the Department of Labor and Industry, Harrisburg, Pa. Write for them and aid in promoting carefulness among the workers.

THURSDAY, NOVEMBER 23, 1916.

MORNING SESSION, 9.30 O'CLOCK.

Chairman, E. J. STACKPOLE, ESQ., Harrisburg Telegraph, Harrisburg, Pa.

Acting Chairman, JOHN PRICE JACKSON, Commissioner of Labor and Industry.

COMMISSIONER JACKSON: We will continue with our safety program and I hope, inasmuch as Mr. Gilday has already presented his very extraordinary and forcible paper, that we will be able to give from probably 10:30 or 11 o'clock at least until half past twelve to rapid two minute discussions upon the subjects of arbitration and mediation and of accident prevention, ending up with a quick, live series of comments.

Mr. E. J. Stackpole, the editor of the Harrisburg Telegraph and one of the earnest promoters of this whole propaganda in the State of Pennsylvania, has unluckily been detained some two or three hundred miles out of the city and can not be here this morning. His heart is with us, his newspaper is with us, and he would be here if it were within the range of possibility. I will therefore substitute for him for the time being.

The first paper to be presented to us this morning is by a man who is in charge of safety work in one of the industries, in fact, in charge of a series of plants in one of the industries, where the accident hazard is really very great and where much efficient work has been done to reduce the hazard. Mr. H. T. Raisbeck's paper will be read by Mr. Alexander Morrow, a gentlemen who has done a great deal for the safety propaganda in this State. I should have said that Mr. Raisebeck is the Plant Manager of the Atlas Portland Cement Company, Northampton, Pa., and the subject of his paper is The Foreman's Duty toward Accident Prevention.

THE FOREMAN'S DUTY TOWARD ACCIDENT PREVENTION

By H. T. RAISBECK, Plant Manager, Altas Portland Cement Co., Northampton, Pa.

Mr. Chairman, members of the Conference, ladies and gentlemen, in preparing this paper, I am, of necessity, compelled to make use of the first person, far more frequently than I am wont to do, but as the views given are my personal ideas concerning a foreman's duties in

this line, I beg your pardon for this personality and submit the paper for what it is worth. Though a foreman should fulfill all these requisites, he would still fall short of being an "ideal" foreman, even as I would have him be, for the thoughts given have been jotted down more or less at random as they came to me during spare moments.

In the very first place, I consider it highly important that the foreman fully realizes that he has such duties to perform; that they belong to him; that he is personally responsible, to a large extent, for his workmen; that he really is "his brother's keeper."

Next, I would have him be thoroughly familiar with the nature of the work he oversees; he should be qualified to such a degree of efficiency as to leave no doubt in his own mind, or that of his employe, but that he can personally execute any part of the work equally as well, and preferably better, than any of his men. This goes a long way towards establishing the necessary confidence and has a tendency to eliminate the "I know better" idea. He should also take the most active interest in the safety organization, for the very reason that he has succeeded in deserving his present position, by virtue of which he is familiar with all hazards and most competent to notice dangerous places, conditions, and practices.

He should further acquaint himself thoroughly with his live material, that is, he should make a personal study of his men, individually—their qualities, nature, aptness for special kinds of work, as well as their habits and conditions. I consider this important, for by obtaining this information he will be more competent to select the proper man for the particular kind of work to be executed. Men are not alike in aptness, alertness, etc., and it would be extremely dangerous to place slow moving, slow thinking men at an occupation where just the opposite qualities were required. One man may be an immediate source of danger, both to himself and his fellows, at a certain kind of work, while the same man may possess necessary qualities to make him an expert worker at some other machine or operation. Then again this same man may not be in condition to execute the same work each day, with the same degree of safety. This makes it necessary for the foreman to make a quick survey of his men every morning. He should be familiar, to a reasonable degree, with the man's mode of life and surrounding conditions away from his employment. The environments of a man for the fourteen or sixteen hours while he is off duty have a natural tendency to affect the man's mind and physical condition during the eight or ten hours while he is employed. Indulging too freely in intoxicating liquors while off duty, insufficient sleep or rest, worry—all these have a direct bearing on the man while at work and his full attention may be so distracted that he may at certain times really be a source of danger, though he is unconscious of it himself at the time.

He should seek to encourage the most sincere co-operation of the men. Let them feel that their co-operation is urgently desired and absolutely needed. I would not consider it as displaying a weakness should he confess to them that he is practically helpless in his endeavor to prevent accidents without their individual assistance. Let them feel their importance. Make them realize their responsibility to themselves, their coworkers, their wives and their children. Cause them to realize that it is not a selfish motive on the part of the employer to avoid compensation, but impress it upon their minds that both he and his superiors are vitally interested in the safety and welfare of both the employes and their dependents. His actions should bear evidence that he heartily approves everything tending towards the protection of life and property. This influences the men under his direct supervision to become more careful in all undertakings and results in a higher class of workmanship, closer fellowship and harmony. The employe, who notices that his foreman does not take an active part in the safety movement, naturally will not show much interest in it himself and very frequently pays a heavy penalty for his neglect. Let the foreman point out that while it may be unpleasant for the employer to pay for accidents with value expressed in so many dollars and cents—the employe pays for the same very often with the loss of an eye, a limb, or even life. How much more this means to the man himself, his wife, or the dear little ones whose sustenance and happiness depends on him! The suffering and sorrow, due to careless actions, can not be compensated for in money, as in many cases the burden falls upon the dependents and must often be borne for a long period of time. It may not be just in the line of duty, but I question whether it is out of place for me to suggest that the foreman might endeavor to improve the employes' environments and mode of living, by encouraging economy, not only about the place of employment, but at home. Take an interest in their savings, in a few shares of Building & Loan Association, in Postal Savings Accounts, or any other means by which the "mites" are carefully put away for a rainy day—but here again he must be willing to take an active part personally, for here it naturally becomes his duty to encourage, recognize and assist the employe in obtaining deserved promotions. This tends towards real co-operation and the foreman should realize that hearty co-operation and high efficiency go hand in hand whether the end in view be output or safety.

I would have him encourage personal suggestions from his men as to their ideas on improving dangerous conditions or on any matters pertaining to safety or welfare. It has been my experience that if a conscientious appeal is made to the employe the response is usually prompt. There are cases where it is necessary to appeal several times, but this is the exception rather than the rule, yet if such be the

case, I feel that we should make repeated appeals for in a few instances I have succeeded in thus obtaining valuable ideas on guarding particular places that I personally thought could not be guarded. It is true that the suggestions thus obtained are not always such as warrant having them carried out, but let us not make the serious mistake of paying no attention to them. This too often discourages the employe and may prevent one or more very valuable ideas from being brought forth. Let the employe know you appreciate his suggestion, go into the question with him in detail, and if in the foreman's opinion the suggestion is not worth putting into effect, let him explain to the employe why it is impossible or impractical to do so, and above all, do not forget to thank the man for his effort. This tends to encourage further attempts and often brings to light phases and conditions of which the foreman or employer is not at all aware.

I would hold the foreman responsible for having all necessary safeguards at their proper places. He should be vested with sufficient authority to build, or cause to be built and installed all the necessary guards to protect his men thoroughly. Such guards as necessitate the expenditure of considerable money, I would have him investigate, and then openly place the matter before his superiors, that is, have him in this way relieve his own conscious of any dangerous condition with which he feels himself unable to cope. Further, he should be acquainted with the standard requirements and personally see that, as near as possible, all guards are made to standard and properly placed and maintained. Guards are often removed on account of necessary repairs to machinery, and frequently the employes neglect to replace the guards at once. For this neglect they should be taken to task, the foreman should be firm, but reasonable; discipline is necessary, in fact, it is essential in all industries. The proper relation between the foreman and his employes makes discipline easily maintained and this condition, once obtained, is an invaluable aid in the work of accident prevention. He should avoid unnecessary harshness and exceeding severity, but should strive to establish a mutual feeling of good will. However, with this object in view, it behooves the foreman to be very careful not to become unduly familiar, for it is impotarnt that he command a reasonable amount of respect as a leader.

He should make few rules, but enforce them. To do this properly, he should strictly observe them himself. I would have no obsolete rules posted. Rules that are no longer required, or for any reason are no longer in effect, should be taken down. Have the employes thoroughly understand the rules laid down. Talk them over with the men, explain what is desired, ascertain how they feel about them and if any of them are not practical or for any reason can not be expected to be obeyed or enforced, have them discarded at once. Few good

rules enforced are more effective than many rules followed promiscuously.

The use of safety signs or danger signals is to be encouraged, but the foreman should realize that it is far better to have the dangerous condition corrected than simply to place the mute warning that such condition exists at that place. These signs are simply reminders of danger and very frequently the men get so accustomed to seeing them that the real intent of the sign is lost sight of.

The foreman should practice, preach and enforce cleanliness. Cleanliness about the place of employment bears directly upon the quality of work that may be expected. Neatness is another quality, I would have him lay stress on. Have no unnecessary tools or other material carelessly lying around the machinery—a place for everything and everything in its place. The foreman should make sure that the building and its surroundings are safe and that the proper precautions are taken in planning means of escape in case necessity demands a sudden exit. Call the men's attention to the advantage of "keeping cool" in case of emergency and point out the danger of getting excited, and of thoughtless, hasty actions in case of a panic.

I am a firm believer in organizing safety squads, first aid corps, fire drills, etc., but again, I would have the foreman absolutely know his business first of all. Then only can he properly instruct his men and then only can he expect desired results. In this connection I would lay special stress on: (1) Knowing exactly what to do. (2) Doing that particular work promptly, (3) Doing it only as a first aid measure. Let the men understand that they are not supposed to take the surgeon's place, but simply to render temporary relief immediately, and see that proper help is promptly sent for. Very few men can qualify to give permanent treatment, and I would have them understand that while the intention is good, they may do the injured employe more harm than good should they try to do more than they are sure they know how to accomplish. Be sure to know what to do, do it quickly and let "well enough alone" until further aid is given by the physician.

Proper light evenly distributed is absolutely necessary about machinery. The light should be of an even texture and not glaring, as this is injurious to the eyes and causes too deep shadows. The foreman should carefully inspect the premises and insist on having the necessary light furnished. Next to proper lighting, I would have the foreman maintain sufficient ventilation. This is another strong factor in obtaining efficiency, while at the same time it lies in the direct path of his duty towards his men's welfare.

The foreman should strive to avoid any occurrence that would tend to distract the attention of his men from their work. A shrill whistle, unnecessary shouting, foolish dropping of tools or material,

etc., etc., all have a tendency to draw the men's attention away from their work and are only too frequently the direct cause of a serious mishap. Allowing strangers, or even employes from other departments, too much freedom has bad effects and as far as possible should be avoided.

I have now enumerated a few of what I consider essential requisites in a foreman, but a faithful and conscientious foreman in following his daily routine of work will be confronted with many more personal duties arising from particular occurrences as he meets them and he must constantly be on guard to perform his duty as his conscience dictates.

In submitting the above thoughts I have endeavored to adhere strictly to the subject assigned me, and yet I realize that when the subjects are so closely related as they are in our program, I may unintentionally have trespassed—if in your opinion such is the case, I beg to apologize and thank you for your attention.

CHAIRMAN JACKSON: We now have a man who has the safety bug very distinctly. He is almost inoculated he has it so thoroughly. I think we will enjoy hearing from him.

Before doing so, however, I will explain the rest of the conference program for today. The physicians are meeting in the Senate Chamber, considering the subject of medical treatment of accidents and industrial diseases. The referees of the Compensation Bureau and such people as are connected with that work directly and officially are having a round table session in the Masonic Temple Building.

I should like you ladies and gentlemen, if you will, to stir your brains up a little bit and be prepared for the two minute round table talks, two minutes apiece, as soon as these papers are over: on accident prevention, arbitration and mediation, continuation schools, etc., quick, sharp, and well worth while.

I take great pleasure in introducing my very good friend, Mr. Charles H. Spotts, Brotherhood of Railroad Trainmen, Harrisburg, Pa., who will speak to you upon the subject of "The Employe's Duty toward Accident Prevention."

THE EMPLOYE'S DUTY TOWARD ACCIDENT PREVENTION

By CHARLES H. SPOTTS, Brotherhood of Railroad Trainmen, Harrisburg, Pa.

MR. SPOTTS: Mr. Chairman, ladies and gentlemen, as a workingman I have been visiting all these Conferences. Living here in Harrisburg I became interested and as I saw what my employer was doing and as I saw what the State was doing for my fellow workers I felt it was my duty to get on the job and do what I could. It is

about three months ago that Mr. Jackson asked us to start the movement of getting every labor organization to become interested and do their part in this safety movement and from that time on I have been stirring things in the labor organzations around Harrisburg.

I want to say that when I got investigating my own organization I found from our record of accident claims, things that surprised me. When we pay an accident claim, that means that a man has lost his hand at the wrist, his foot at the ankle, or he has lost his life. Before they passed the Coupler Law, when we still used the old link and coupling pin, we killed or injured 20 a day out of every 1,000 of our brothers. Then along came the Coupler Law; and we were a long time getting the railroad companies convinced that we needed automatic couplers put on; they put them on gradually and I found that the accidents increased while we were putting them on up to 25 to 1,000. Then along came the safety appliances and that reduced things down and we were only paying 13 claims to 1,000. Then four years ago along came the safety first movement and when I saw what four years of safety first meant I was surprised. The first year it was put into effect reduced the accident claims to 10 to 1,000; the next year 8.3 to 1,000; the next year 8.2 to 1,000, and this year 6 to 1,000. Just think what that means. In our membership that means a reduction of 1,800 men put on the scrap pile. On our figures, this year it is 620; add the 1,800 to it and just think what it would mean. If safety first does that when only the railroads are taking it up, when the officials are taking it up, what will it do if we take it up? I want to say, in years gone by when a fellow came on the railroad the first thing we thought of was taking him out to see the town, taking him out to see the town and making him a good fellow; but to-day we don't do that on the railroad any more. I do not know whether it is the Y. M. C. A. that brought it about, the church, or whether it is our organization that brought it about. Our organization doesn't stand for a man getting drunk and since we have a big organization we don't have so much drunkenness. Since those things have come now, we have an awful reduction in accidents and it simply shows me that to-day on the railroad we have got as fine a class of citizens as you find anywhere. Why, I can recall in the old days when a man would get hurt and he would ask some fellow if he wouldn't pray for him, we would stand there and look at him in amazement. It is not so to-day. We have hundreds of men on the railroad that would pray for a man if he got up against it. We have the best class on the railroad to-day and ready to do their part at all times.

Now, on this question you have before you on trespassing, I want to say it took me ten years to make up my mind that I should do my part to keep a trespasser off the railroad, and the way I came to the decision was this: One night four of us had the job of carrying a

man to the deadhouse. We picked him up, he was cut all to pieces, and I guess none of you like to get human blood on your hands, especially the other fellow's. When we returned and put our stretcher away the four of us washed our hands at the wash tank and some fellow said: "That was a pretty tough sight," I said, "Yes, it was." He said, "I don't mind it as much as I would if it had occurred to one of our fellow workers. I felt then that if the fellow that had no business there was the fellow that caused those horrid things we ought to keep him away. I have looked into the matter of the trespasser, and the people killed, and I found that the majority were trespassers, and I made up my mind that I certainly would do my part to keep the trespasser off the railroad. Those jobs are not the pleasantest things to do, but we have to do them real often on the railroad; but I want to say that with the safety equipment and the safety methods that have been put into effect to-day we don't get the job so much anymore. I want to say that working with me I have all young men, I have forty men there and we hardly hurt a man at all; once in a while there is a slight accident, but not so often a serious one. The last serious accident case that we had was a man whose leg was crushed, and actually he would not have died if he had not been a cigarette smoker. When I talk cigarettes to men on the railroad as safety first they laugh at me, yet I never saw a cigarette smoker hurt that he was not worse off than the other fellow. A man who smokes cigarettes and gets hurt on the railroad is worse off than a man who is a rummy. I have seen big men that looked hearty whose death was caused from a slight accident and who could have been cured by the docter if the man had not been a confirmed cigarette smoker. I want to say that the man that smokes cigarettes and works at a dangerous occupation is a fool. He should cut it out. Two years ago I saw a young fellow dying from what I call "Cigarette snakes". Just imagine a young man having the habit so bad that his lungs were eaten up from the effects of them; that he had to have little pieces of matches on the bed and he struck them and imagined he was smoking, and then he blew the smoke up, then imagined he saw little devils coming after him through the smoke; and then he called for his mother. A young man never thinks of his mother until he gets up against it, and then he wants her; he needs her; he needs her advice.

It is the duty of the railroad man to have his mind on his work if he expects to keep from getting hurt. It is the duty of any man, I don't care what his position is; if he has a hazardous position he must have his mind on his work or he is going to get hurt. You saw the picture of "The House That Jack Built," and you saw that the young fellow had a scrap with his wife, and he went to work, and his mind was on that scrap and he deliberately walked in front of the car. I want to

tell you something more serious than that; something that we want to take back home again; that is the man that has a sick family at home and comes out to work. Can he keep his mind off of it? One of the most serious accidents I ever saw was to an old man, a watchman. His daughter was sick and was expected to die, but he had to go to work; he had a big family and he could not stay home with her. When a man has sickness at home he has double debt on his hands and he must go to work whether he feels able or not. This old fellow's thoughts all day were of his daughter that was so sick. At four o'clock in the afternoon he forgot himself and walked deliberately in front of a shifting engine and was ground to pieces. We buried him and his daughter on the same day. He could not have his mind on his work.

I want to say another thing: The average workman cannot afford to have sickness because he can not afford a doctor's bill. We send, every year, thousands of dollars over to China to educate the Chinaman. I should like to see China send one man over here to educate us upon the plan to pay the doctor when you are well and not give him a cent when you are sick until you do get well. If we had a condition of that kind then a working man's mind would not be always on these enormous debts. Just consider the fellow making ten dollars a week and how he pays for his living—and those fellows are the fellows that produce big families; they are the Roosevelts of this country; they are the fellows that make the nation great. It is not the rich man that has the big family. It is the fellow that is making the small wages and many of those fellows' wives will be sick and very sick, and they will never send for a doctor because they can not afford one, and they don't want the charity doctor. I want to say if those people could pay a small sum each pay day to the doctor when they are well for taking care of them, they would go to see a doctor when their ailment could be easily fixed up; but no, they have to let it go because they can not afford it. I have seen a case in my own street of a woman whose daughter had typhoid fever, she had just gotten over it and the doctor's bill was high and they were poor. Then she began to get sick herself, and she thought that if she tried home remedies she could cure herself. She waited so long to send for the doctor that when the doctor came it was too late and we buried her. That is the way it goes.

These are big problems. I am sorry those doctors are not over here now, I should like them to hear this much of what I have to say. If they would help us to have what I call a "Community Doctor" and everybody in the community would hire the same doctor and we would pay him, each one so much a month, he would get a good salary and get more in that way than in any other; then we would go to him when we feel bad and get fixed up before it is too late.

I was out in Detroit last May and saw the Ford Automobile Plant. I saw them turning out automobiles every twenty-seven seconds and as I watched them going out I thought, that is the coming thing for workmen to fear. A workman, you know, if he gets hurt on the railroad gets compensation. I have the honor of working for one of the best railroad companies in the State, because if I lose my hand they will give me fifteen hundred dollars and besides that they will give me a job, guaranteeing to pay me $70 a month as long as I do the right thing. I want to say I am proud of working for the Pennsylvania Railroad Company. But the automobiles are becoming very, very thick on our streets and we must go to and from our work. We have got to do it; but if we get hurt or our family gets hurt we don't get any damages, and then we are up against a more serious problem, and I want to say that a great many people, you know, think safety first doesn't concern them. They are a good bit like the old fellow that went over here to hear an evangelist. He said, "The evanglist tore up Tom, Dick and Harry but he didn't tear me up and so I don't care." So long as the remarks were not directed at him personally he thought it did not cencern him; and that is the way we are with the safety first movement; so many think that safety first doesn't concern them; but if you buy an automobile, safety first concerns you twice as much as before. Now, understand, today it is not only the rich man that buys an automobile. The workingman and any and everybody is becoming imbued with the fact that they must have them and where we used to pride ourselves upon buying a home, why now we buy an automobile. When you buy one though, you buy only an automobile. They don't give you the earth and when you think that you can do as you please as you rush over this earth of ours, you are wrong, because there is another fellow besides you. I want to say that when you give a man a license to run an automobile there ought to be a card go with it that he would have to put in the automobile, in front of the driver; it should be right over the speedometer, stating, "When this speedometer points beyond 25 miles an hour, it is not safe for yourself, your friends in the car, or the public," and it isn't. Why does a man want to fly over the roads faster anyhow? He doesn't see the country; he is not in that big a hurry to get where he is going. It is just the speed idea that he gets into his noodle, and I want to tell you it is not good for him or for the other fellow. When they hit you, whether it is a "Tin Lizzie" or a big Cadillac, they hurt; so the workingman must learn to dodge them. Another thing a workingman must do today: He must study the traffic rules and learn the safe way to cross the street and must teach his wife, and his children, the safe way to cross the street, and I think it would not be more than fair if the school teachers were to make that a part of the education of the children. Why, I heard a story, it is only a joke

but there is a lot of truth in it, of a man who got stranded at the corner of Forty-Second street and Broadway in New York City. I don't know whether any of you have ever been there, but you know that is a very busy thoroughfare. The people were going across the street in crowds, but he thought he would wait until the crowd thinned out and then he would go over, but when the crowd thinned out the signal was against him and that is when he started to cross the street. He got part way across the street and an electric car came along and rang the bell, he jumped back to dodge that and ran in front of an automobile. The chauffer blew the horn and he dodged that and jumped aside right in the face of a motorcycle. About that time an elevated train overhead went whizzing by and thinking that something was coming down on him from overhead he stumbled and fell down a manhole and was run down in the subway. We have lots of people crossing the street just as dumb as that man, with no education along that line. I don't think it would hurt the Department of Labor and Industry to devise safe methods of crossing the streets and put them in our newspapers. I believe every newspaper would print them for nothing, showing the people the safe method. There is a safe method of crossing the street, especially in the city; and there is also a dangerous method.

There is another thing I want to say to the railroad man. You know with the average person the Bible is your best friend, and that is what we all say; but I contend to a railroad man his book of rules that he works with is his best friend. It is either his best friend or it is his worst enemy. If he abides by those rules, tries to live up close to those rules, he saves himself from trouble, he saves himself from getting hurt, he saves the other fellow from getting hurt and he helps to avoid accidents. Now, if he violates those rules—and I don't care how he violates them—there are a number of ways that they are violated, he is liable to get hurt; he is liable to hurt the other fellow too. If he hurts the other fellow the law says, "If you violate the rule and you hurt or kill some one then you are guilty of a crime and you will be put to jail for from six months to five years." That is why that book of rules is his worst enemy if he doesn't live up to it; so that I contend that it is a workman's business to live up to that book of rules. If he is on the railroad or if he is in a shop and there are rules laid down that he is to work under he has got to observe those rules. If he doesn't observe those rules he is going to be the first fellow to get hurt.

I was amused when I listened to a speaker yesterday from the Cambria Steel Works. He was telling about coupling with the old link and pin, using a stick. Well, I want to say that I coupled with the old link and pin for fifteen years and I never used a stick

and never would. I want to say right here that is the easiest way to get hurt, and I have been in the business. I ran a coupling engine and did nothing but couple with those link couples for six months, did it all day long and never used a stick to do it with, because the stick slips off. It is as sure as mischief to slip off just at the time the cars are coming together, and then is when you not only get your thumb off, in the usual way but you also get your whole hand in. In times gone by I got so used to tying up the hands of men who had used their brake club for that purpose, that I never did it. The sooner you do away with the old bull noses the sooner will you have safety. If you use a stick it will slip off just when you don't expect it to do so. One thing that amused me on the railroad was that it took them so long to teach us the first aid to the injured idea. My, oh my, when I think of the days gone by how we used to handle fellows that got hurt! I recall one time when a fellow had his leg broken and we were all too dumb to know that we ought to put something under that leg to hold it from slipping until we got to the doctor's. We took hold of him and put him on the stretcher and started to take him home. He wanted us to stop, he didn't want us to go a step farther but we took him on a stretcher and got him to his home and here his bones were grinding together and he yelled and yelled and I wondered what he was yelling about. It took me a long time until I realized it when the Company first gave us the first aid lectures and then I discovered what made that fellow yell. I was too dumb to know before what made him yell.

I want to tell you a story: Years ago when they first started the mileage business on the railroad, that is, paid the brakeman three cents a mile for every mile he ran over the road, there was an Irishman got a job on a western railroad in a mountainous country and on the first trip out, the train got away from him and it started going down the mountain at a speed of a mile a minute or more. The conductor looked at the Irishman and said to him, "Man, unless it gets necessary don't you jump." The Irishman said, "Don't you ever think I'll jump when I am making money this fast." I want to say in years gone by, the corporations , the railroads, and everybody were making money fast and they didn't want to jump off for the sake of anybody, but we must give them credit now. They are jumping off and stopping and thinking of the workmen, and while they are thinking of us it is high time we think of them. I want to say that I have the greatest respect for every manufacturer in the State of Pennsylvania, because I believe today they are trying to do the right thing. I can recall when I was a kid working in the mill, my father died when I was a little fellow and I went to work in the mill when I was thirteen years old. They didn't think about sanitary arrangements there. I tended a spinning mule with six

hundred ends and if I wasn't quick enough to get the iron up I got a crack on my fingers and they didn't care, they laughed; then when the noon hour came—we worked from seven until twelve—we didn't have a place to sit down. I had to eat my dinner on the floor. They didn't care whether we had any kind of sanitary arrangements or anything. A couple of years ago I visited the same mill that I worked in when I was a kid, and saw the difference there. They have rest rooms for the girls and places for the boys that when the noon hour comes they can go and eat their meals in a sanitary place. They go out and they play after they are done eating in places that are provided for them, and what a difference there is.

Another feature is the Compensation Law. I was only thirteen when my father died. Suppose my mother would have been compensated as the boys' mothers are today. Suppose she would have gotten twenty-four hundred dollars as the Pennsylvania Railroad Company is paying the widow, and she would have gotten five dollars a month to maintain me until I was sixteen, I could have gone to school, I could have learned a little more and I would have been better fitted to go to work. Well, I didn't stay long in the mill. I got fired for striking and I was glad I did because I never went back to the mill afterwards. I want to say this, that so many of those little fellows I saw there were under size and half fed and worked to death. You don't know what it is, following one of those mules in and out, and it is a fixed movement from seven in the morning to ten minutes of six in the evening, and we didn't get any half day on Saturday those days. When Sunday came I want to tell you we didn't go to church; we were so tired and anxious to get some fresh air that church could not have any attraction for us. I want to say that a boy today can believe that the state provides for him, that the state is interested in him, even though we had one case reported yesterday of a miner that lost his eyes, you remember. That fellow is up against it and so is his family, but I believe that the miners' union is taking care of him and if those boys don't have respect for him, if they neglect their father, I belive the miners' union will take care of him.

I think the labor movement is trying to do everything to advance every safety move they can; they all have spent a great deal of money to advance these ideas, and I know I have personally helped in other organizations besides my own, and I am willing to do more; I am willing to do my part. I am going to tell another story just to finish. There was a fellow down south, an old darkey, preached a sermon on "Salvation is Free." After he got done preaching he said: "Well now, we will take up the evening offering;" and one of the good brothers got up and said: "Look here, parson; what's the idea of the collection? You just got done telling us salvation

was free." The old preacher looked up and said: "You go down to the river; there's the water it is free, but if you want it pumped up to the house you have to pay for it; so take up the collection." I say this: If you can not do your part yourself and you are a business man and have not the time, pay some other fellow; but if you are a working man get your hand on the pump handle and pump your part. I thank you.

COMMISSIONER JACKSON: Other duties call me away now and I shall leave the meeting in charge of Mr. William Young, a member of the Industrial Board, representing labor.

CHAIRMAN YOUNG: The next speaker is Mr. M. B. King, Director of Industrial Education, State Department of Public Instruction, Harrisburg, Pa., who will speak to you on the subject of Recent Educational Investments Relating to Industry—Have they Paid and How? Therefore it gives me great pleasure to introduce to you Mr. King.

MR. KING: Mr. Chairman and members of the Conference; I hope in a few brief minutes to give you a general statement concerning the two forms of education which have been inaugurated within the last five years. Because of the limited time it is not possible for me to give you a number of specific facts. However, if any of you are sufficiently interested I shall be glad to place this information in your hands at another time.

RECENT EDUCATIONAL INVESTMENTS RELATING TO INDUSTRY—HAVE THEY PAID AND HOW?

By M. B. KING, Director of Industrial Education, State Department of Public Instruction, Harrisburg, Pa.

The Cox Child Labor Act in 1915 made provision for continuation schools for all minors between fourteen and sixteen years of age employed in the industries. By the passage of this Act the manufacturers and the school men were confronted with a formidable task; the manufacturer to readjust his working schedule so as to release the boys and girls for eight hours per week, the school authorities to provide the teachers, the rooms and the equipment necessary.

The purpose of the continuation school is threefold. First, to increase the general education of the minors; second, to increase the efficiency of the minors as citizens; and third, to give them information which will be helpful in their daily occupations.

There are several types of continuation schools. One may be called the general improvement school. Another may be called the prevocational school. The third may be called the vocational school.

In selecting the particular type of continuation school for Pennsylvania, it was decided to establish at first the general improvement school. This decision was influenced by the fact that a large percentage of the boys and girls, between fourteen and sixteen years of age employed in the industries of Pennsylvania left school while in the second, third or fourth grade. As a result they did not have sufficient general training to make it possible for them to profit to any great extent by the introduction of vocational courses. This condition, in a year from the present date will not exist to any great extent in Pennsylvania. It will then be possible to make these continuation schools more distinctively vocational in character.

This can be done by the introduction of courses giving a large amount of vocational information concerning the industries in which the minors are employed; also by the introduction of a greater amount of shop work and a closer correlation of the general instruction with the daily work.

The previous statement, while it applies to continuation schools in general, does not apply to all of these schools. In some districts where large numbers of minors were employed, it was possible to grade these children so that all who received an elementary education equivalent to fifth or sixth grade were in classes by themselves. To these, some form of vocational work was given.

Many districts equipped shops for the boys and cooking and sewing rooms for the girls, so that they might receive instruction in a form of practical education which would be of assistance to them in after life.

Instruction in civics, hygiene, geography, English and other subjects included in the general improvement portion of the continuation school course resulted in great good to the pupils. A number of employers have stated that the discipline in the shops has been much better, that the children instead of asking the foremen for the solution of a problem now go to the school for assistance. This academic instruction has also encouraged some of the children to continue in school. Many instances have been reported in which children who had left school to work have returned this fall to attend the regular classes because of their quickened interest in education.

While there was on the first of January and for a month or two thereafter, a decrease in the number of minors employed we find by the first of July, 1916, that as many minors between fourteen and sixteen years of age were employed in the Commonwealth as had been employed previous to the enactment of the Act of 1915. This condition, of course, was brought about by the tremendous demand for labor that existed during that time. Children over sixteen years of age could not be secured to perform the work which was formerly done by those between fourteen and sixteen years of age. However,

as soon as the demand for labor decreases, we will find a gradual decrease in the number of minors below sixteen years of age who are employed. Then the continuation schools will decrease in size. Similar conditions existed under the old law when no continuation schools were required.

Despite the fact that in a great many of the school districts the annual budgets had been made up before the passage of the act providing for continuation schools, one hundred school districts organized and maintained such schools between January 1st and June 1st, 1916. In these one hundred school districts thirty-five thousand six hundred and twenty-eight children between fourteen and sixteen years of age were enrolled and three hundred and seventy teachers were employed for the continuation school work alone. Instruction was given by these teachers in three hundred and fifty-one different school rooms.

In many districts it was very difficult to find room for the continuation classes. In some places it was necessary to rent buildings of all sorts, or buy portable buildings and erect them on some part of the school grounds. In others the employers granted the use of rooms in their plants.

The school people, however, were not the only ones who had difficulty in providing for the continuation school. The employers had to readjust their working schedule so as to permit the boys and girls to be away from their employment eight hours a week. In many instances this was a sacrifice on the part of the employers but they accommodated themselves to it. Some who lost the most are the freest in their praise of the school.

Many of the employers in the State co-operated with the school authorities by arranging a follow-up method whereby the work of the boy in the continuation school was reported back to the general superintendent or to the foreman. In some instances wages were paid for the time during which the minors attended school. In other instances the children were promoted because of their work in the continuation school.

Although special mention is made of some of the activities of the continuation schools, it should not be inferred that the work in the districts not mentioned is unworthy of note. It is impossible at this time to give the details of all the schools.

Conshohocken and West Conshohocken, Montgomery County, after a number of conferences, consolidated for continuation school purposes. The majority of the minors living in Conshohocken were employed in the industries of West Conshohocken, while many living in West Conshohocken worked in Conshohocken. Six hours of academic work and two hours of manual arts or of domestic arts were given.

Glassport, Allegheny County, maintained a continuation school in a room furnished in the United States Glass House. Arrangements have been made to give six hours academic instruction weekly to all pupils, two hours weekly sewing instruction for the girls, and for the boys one and one-half hours instruction in shop drawing and one-half instruction in the theory and practice of glass manufacturing. The U. S. Glass Company will supply a foreman as instructor in shop theory.

Mount Carmel Township, Northumberland County, received its continuation pupils from the mines and the silk mills. Accordingly Superintendent Donohue, arranged to teach the boys mining arithmetic and mining law. He employed a teacher of sewing for the girls. This "variable vocational" work is given for two hours, and the academic instruction for six hours.

West Mahanoy Township, Schuylkill County, devotes two hours of the eight to the study of practical physics as applied to outside mining work. As the boys attending the school are employed about the mines, this enables them to understand the machines with which they work.

Williamstown and Williams Township, Dauphin County, consolidated for continuation purposes, and installed equipment for teaching cookery to the girls employed in the silk mills. An instructor in mining arithmetic and mining law was employed for the boys.

In Philadelphia, portable buldings were erected and equipped. The boys receive instruction in several occupations and the girls are taught cookery and sewing.

Some of the continuation classes were conducted in factories and stores. When the schools opened this fall a central continuation school was organized.

In Pittsburgh the shop instruction in carpentry, electricity, sheet metal work and office practice for the continuation school pupils was given in the shops of the North Industrial School. This school was opened in October as a central continuation school.

Equally important with the continuation schools is another type of school which is gradually being introduced throughout this great Commonwealth, the Vocational School. A school designed to train for efficient service in the industries.

The vocational school or department cannot be successful if the teachers are poorly prepared. This applies to professional as well as shop training. The qualifications of directors and teachers have been gradually raised. The director of an industrial school should have such trade qualifications as will win the respect of the workmen of the community. At the same time he should have academic training such as will command the respect of the professional and business man. A supervisor of household arts should have not only

the theoretical training in cookery, sewing, sanitation, and other activities of the home, but should have the practical experience so that she will understand how to apply the theory to the various pursuits of the homemaker.

The Bureau has insisted, wherever possible, that the director of industrial education be a man who has learned his trade, who has had successful experience in the trade, and who in addition has had the equivalent of at least two or three years' work in a college. In some instances it has been possible to secure as director, one who has learned his trade and who has completed a college course. Many of the directors of household arts education are women who have had wide experience in the practice of housekeeping and who have completed either a two or four years' course in household arts.

The inventory of a manufacturing plant can be stated in very definite terms but it is a difficult matter to state in definite terms the accomplishments of the past year in the field of vocational education in this Commonwealth. Much has been done which may be measured in terms of existing day and evening schools that were inaugurated during the past year, but more has been done which for one reason or another, has not as yet been developed into such concrete shape that it may be here described.

Thirty-nine school districts in twenty-four counties have maintained twenty-five household arts schools or departments during the past year. All of these received aid from the State. In these schools over eleven thousand students were enrolled. It is impossible at this time to give definite figures for the coming year. However, advance reports indicate that there will be at least thirty-seven household arts schools or departments, and forty-three industrial schools or departments in operation. Mention is made below of the work that has been done and work that is contemplated in some of the districts.

Have these schools paid? A few examples as to how these schools have paid dividends might well be quoted at this time.

In Dunmore, Lackawanna County, the alternate week co-operative type of industrial school was established, because of the small sum of money available for industrial education. In this kind of school the pupils are taught the shop work in a commercial plant. The technical instruction is given in the school.

A visit to the New York office of the Erie Railroad was made by a member of the Bureau. After the railroad officials were convinced of the advantage of such a school to the student, to the borough of Dunmore, and to the Company, they agreed to co-operate by employing the students in the Dunmore shops.

The course has been in operation since February first. Very favorable comments on it have been received from railroad and school officials.

The paper of Mr. Vincent Colelli, Interpreter for the Pennsylvania Railroad, on How to Reach the Non-English Speaking Workman is as follows:

HOW TO REACH THE NON-ENGLISH SPEAKING WORKMAN

By MR. VINCENT COLELLI, Interpreter, Pennsylvania Railroad Co., Philadelphia, Pa.

How to reach the non-English speaking workman is one of the big problems which large corporations of the country have to solve to-day.

We are told that there are over three million (3,000,000) workmen in this country who are employed in the different industries and who are unable to speak or understand the English language. In Pennsylvania alone there are nearly a half million, and yet few corporations are trying to reach these people. Probably the reason is that the managers of the different industries are so busy planning how to increase their earnings that they have little time to think seriously of this great question, or perhaps have had no time at all. However, the result is detrimental to the employer, the employe, and the country at large.

If one is interested in his own welfare, he should also be interested in that of his employes, for their welfare means his, and that of the country. To insure this, it is necessary to invest a certain amount of money to educate the non-English speaking workman. The money invested in this work will be beneficial to the employer and employes.

Our company believes in the betterment of the conditions of its employes, especially those engaged in the construction and maintenance of the right of way. Here they are subject to all changes in the weather conditions, necessitating strong, healthy bodies; to certain hazards associated with some of the operations making it necessary for them to be alert; to heavy though careful and painstaking work requiring strength and suppleness. Carelessness on the part of the trackmen, either in their behavior or work endangers not only themselves, but possibly hundreds of lives and thousands of dollars worth of merchandise property, and rolling stock.

A record taken in 1913 showed that there were more than 13,000 Italians then on the System. There were frequently cases of trouble caused by these men being misled by petty labor organizers, and from other sources. The Company could not understand the men and the men could not understand the Company, because the Italians were ignorant of the English language. It was finally decided to teach English to Italians, as, the ambituous Italians desired to learn this

language. The task of preparing a series of lessons, and the method of how to impart the language, was assigned to me. Before I prepared the lessons I went over all the System and found that the laborers were scattered along its lines and that it was impracticable to have regular sessions. Therefore, I thought it advisable to prepare a series of lessons in such a style that a man could study by himself at home during his spare moments.

The lessons in pamphlet form include a study of the alphabet, vowels, diphthongs, pronunciation of the consonants in English, with imitation in Italian and the corresponding word in Italian; elementary exercises, with vocabularies in English and Italian, of the words used with each exercise; forming of sentences; and gradually developing into a complete understanding of the English language which the laborer will ordinarily use. These pamphlets are well illustrated, showing the proper and improper methods of performing the different classes of work; so that two results are accomplished; the employe learns English and at the same time the best way to perform his regular duties.

The words, the expressions most commonly used in connection with railroad work, the names of the different tools employed for track work and other construction, as well as their proper uses, are fully explained.

The correct methods of doing different kinds of work are described and illustrated, which make the work easier, and at the same time tend to prevent many accidents. To facilitate the work, meetings have been held at convenient places on the System, and the lessons have been explained together with methods of answering the papers and addressing the correspondence. The papers which the men answer are corrected, marked and returned in due time.

Stereopticon slides showing the rules in Italian and in Englsh, the proper and improper methods of performing railroad work, as well as how to avoid accidents, are thrown on the screen and explained by a talk. In my judgment these slides, accompanied with the talk, are most benefical to the men, even to those who do not know how to read or write, because the visual impression will never be forgotten while a lesson or a lecture, not well understood, may not be grasped by the mind. We are told by psychologists that the mind will retain 80 per cent of what it has seen and about 45 per cent of what it has heard.

It is not uncommon to find, after a meeting, a group of these men arguing about the proper and improper ways of doing their work.

A pamphlet on Naturalization, giving all the information necessary to obtain citizenship, has been prepared and distributed among the men. It is useless to say that it has produced excellent results.

Another pamphlet on hygiene entitled How to Keep Well has been arranged, purposely to give hints on health and first aid, which has also had a beneficial effect upon the men.

This last summer an educational moving picture film was developed, entitled "The Americanization of Tony," in which is shown all the activities of the trackman in connection with railroad work, his temptations, mistakes, results of carelessness, and also the way to overcome them, with the corresponding reward.

At present we have an enrollment of 3,413 members in the Italian-English Course. Of these, nearly 50 per cent. are active; the others are eager to learn, but owing to their illiteracy are unable to take active part in the course. Nevertheless, they have been benefited by the meetings.

It is interesting to know that many of them hold positions of trust and responsibility, due, to a great extent, to their learning the English language. There are at the present time on the Lines East of Pittsburgh and Erie about 100 Italian foremen, a position of much importance in this day, over 225 Italian assistant foremen, while many others are making rapid advancement in the shops as gang leaders and machinists.

Owing to the recent scarcity of laborers created by the European War a great number of Mexicans have been employed in the service. The Italian-English pamphlets are being translated into Spanish, and lectures and "Safety First" meetings are being held for the benefit of this nationality.

Our records of accidents and promotions also the smaller number of labor troubles that we have had since this course has been inaugurated show conclusively that this was a move in the right direction. It is possible, by this means, to find those who possess unusual ability, who otherwise might never be discovered.

In conclusion, this training benefits the men being instructed, the Company, the community and the country at large.

CHAIRMAN YOUNG: We have now heard the last of the speakers and we are going to give everybody a chance to have two minute talks on the various matters which have been discussed at this Conference, the matters pertaining to compensation, accidents, safety, fire prevention, reducing the labor turnover and other matters of an educational nature. Now, of course, it is impossible to schedule every one attending the Conference as speakers. That is an impossibility unless we wanted to hold a session of several months and while we have had a little general discussion after some of the sessions, still it has not afforded every one an opportunity to say what they had to say and now at the close, you might almost say, of this Conference, for you have heard all the speakers upon the various subjects which I have designated, some of you no doubt will have a better idea of what you think of the Conference and of the opinions

expressed by some of the well-known speakers who have addressed you. I don't want to slight anyone iutentionally. We are going to have a matter of about an hour or so for these two minute discussions and if anybody doesn't have a chance to say anything don't blame it on me.

I might just say at this time, however, while I have an opportunity—I might not have it later on—one of the matters in which I am vitally interested is the matter of effecting the appoiutment of safety committees and men to work in conjunction with their employers, but they can not properly work in conjunction with their employers unless the employers evince an intention of working in co-operation with the men. During the past three or four months I have found a very healthy sentiment in some of the localities whereby the employer is willing to enter heart and soul into this matter of safety first. It is a matter that affects him as well as the employe. It is a matter that must be looked at, not only from the financial standpoint but also from the humanitarian standpoint, and especially so since the enactment of the Workmen's Compensation Law. The less number of accidents there are why the less the rate will be, and even though we have a workmen's compensation law, one which has been said by a number of speakers to be the best, operated in any state in the Union, still I think there is another matter which should be considered over and above that, and that is the matter of preventing the number of accidents which are creeping up by the thousands and, as has been said, will probably amount nearly to the number of three hundred thousand by the end of this year. No doubt if it were not for the enactment of the Workmen's Compensation Law the Department would not be in possession of all these facts, would not be in possession of the statistics, just shown to us, how many accidents, minor and serious, are daily occurriug throughout our Commonwealth.

In the matter of health, the matter of the men or women being in full possession of their limbs, being possessed of full physical being and mentality, should be considered over and above what money can be given to you by any commonwealth. Money can not compensate a widow, mother, or children for the death of a husband, father, or son, and I am glad indeed to see such a helpful sentiment prevail iu quarters in which if you had broached the subject a few years ago you would have been ridiculed. I am also glad to hear the free expression of opinion which has been given, by the employers, especially at this Conference. As I said, I have not the opportunity and we have not the time to call upon every speaker here, but I do not want to slight anyone here. If anyone does not have an opportunity to speak for a few minutes upon the various subjects which have been put before you, I hope you won't feel offended. I don't think I ought to say too much because Doctor Jackson will close the Conference prior to twelve o'clock and if I say too much you might get the impression that I was delivering the benediction or something of that kind, so I will stop where I am and call upon some of the speakers who are present. We should like to have a two minute talk from Mr. James Wright, of the Order of Railway Conductors, Harrisburg, Pa.

MR. WRIGHT: I once heard of a man who bought a new whip for his driver and as he went along he would strike at one thing after another. The first thing he struck at was a bumblebee. The next thing he came to was a branch of a tree and the boss said to him, "Can you reach it?" "Yes sir," he said. The next thing he came to was a hornets nest with three or four on the outside and the boss said to him "Can you reach them?" The darkey said, "Yes sir, but I am not going to." The boss said "Why not?" "Why," he said, "they are organized." So that is my fix. But the point I want to get at is this: We have today reached up into the thousands of men that are killed unnecessarily. We have men that are crippled unnecessarily. Now then our friend yesterday spoke about their

coupliugs; that is, our frieud from the Cambria Steel Company. Now I coupled cars for about twenty-two or twenty-three years. I never used a stick, and to the best of my kuowledge the majority of the men that did use sticks have got marks to show for it. Now for reasons, your couplers or your drawheads are not oval shaped. Your link comes in in that shape (illustrating), they go here, these are round. Now if they were standard your stick would have been all right; but suppose oue was standard and the other was cast iron and was in that position (illustrating) which leaves the one higher than the other. That is the poiut where the majority of men are hurt, right there; when you enter, your link will slip back; your fingers are right in there; your club is right in there, and your fiugers between there. Now I advise that brother if he is going to use safety first to do away with those coupliugs and the quicker the better.

Another thing I want to say aud that is, Mr. Chairman, our organization, backed up by our employes aud the employers as well, is heartily in sympathy with all that you may do or have done iu the way of reducing the number of accidents and whatever may be done for the benefit of the workingmau. I thank you.

MR. J. STANFORD BROWN, Supervisor Labor, Safety Welfare, The Carpenter Steel Company, Reading, Pa.: Mr. Chairman, I want to call attention to one fact. The last speaker referred to what was said yesterday by our friend from the Cambria Steel Works. I think possibly he overlooked a remark that Mr. Herbert made, namely, that those old cars with those old link and pin couplings were being doue away with just as fast as they could do it. I think it is only fair to Mr. Herbert to state that for the reason that he is uot here to state that himself.

MR. J. E. DeFOREST, Brotherhood of Railroad Trainmeu, No. 63, Youngwood, Pa.: Mr. Chairman, I feel that there can not be too much said in regard to the elimination of the liquor habit that used to coutrol our men. I feel there can not be too much said for the good that has come from the effect of the elimination of liquor, to the railroad man. I feel glad that I am an employe of a corporation that has takeu its stand against liquor, because of results that have previously come and the accidents that have befallen many men through the habit of using liquor while in service. It has been my lot several times, before this had become effective, to help men, and I was instrumental iu even getting down by their side and praying for them when they thought that they were slipping out into eternity; but I find there has been a big improvement since this stand has been taken against liquor. I am also glad for the safety first appliances that have been introduced on our system, iu helping men iu their employment. There are some things yet that I think ought to be considered. I have not heard tbem mentioned in this Conference, but I think they ought to be because they would be effective in the elimination of accidents. There are ou the Peunsylvauia system, cars equipped with brake riggings that don't clear our ties by a clearance of eight inches and if a man should fall in front of a car there is no opportuuity for his escaping injury and possibly death. I saw an accident just a month or so ago to a man who had been working with me. In riding a car over a hump on the scales it was necessary for him to apply his brake. The brake shaft was bent aud as he applied his brake it caused him to overbalance and fall off in front of his car, and the consequence was that he missed the brake rigging ou the front end of his car but when the rear end came it caught him and twisted him under the wheels and his both limbs were amputated. I believe there ought to be some means whereby the clearance of brake riggings on cars would not be lower than the clearance of the axle of the car, and I believe that that would give sufficient space, that should a man fall under a car it would give him an opportunity to

escape death or injury. This same man, that I spoke about that got his limbs amputated by falling under his car, I helped take that man to the hospital. It was necessary for us to go some distance to our office and there drill out a cabin and place the man in the cabin. As we drilled out the cabin and got it ready to put the man therein we discovered that the cabin could not be used as the appliances on that cabin were a hindrance in getting the man into the door and therefore we had to drill the cabin back on the track where we got it and waited ten or fifteen minutes until another man pulled into the yards that had a cabin that we could load the man in and that caused some detention in getting the man to the hospital.

There is also another condition that exists when a man is injured, in placing him in these cabins he is generally laid down on the floor of the cabin. It means very much to a man that is painfully injured to ride on the floor of a cabin where there are low joints and rough tracks to cross, and they generally make a high speed to get the man into the hospital. I believe there ought to be an ambulance car placed at every terminal, equipped with first aid appliances, and there should be a table placed in that cabin so a man might be laid upon it and the doctor who is giving the injured first aid should have sufficient room to attend to his patient.

Under the conditions that exist now a man is laid upon the floor of the cabin and there are always four or five men who are on that crew and probably going along with the injured man and the doctor is compelled to get down on his knees to attend to the injured man and if the men are standing around the cabin it makes it very inconvenient for him to render aid to that injured man. I therefore suggest that we ought to have an ambulance car equipped at every terminal for our men who are injued and are compelled to be hauled to the hospital.

I also have another matter that I want to speak of. We have read lately of an accident that has occurred on the Pittsburg Division, of a train that ran away down the mountain and killed several of the men. We have conditions where men, especially on the Pittsburgh Division, are compelled to walk over the top of cars that are loaded and some of the cars, especially coal cars and coke cars, are so loaded on top that it makes it very dangerous for a brakeman to attend to his duties. Should he become overbalanced on the top of that car there is no possible means for him to catch his balance or save himself. I think it is also dangerous to the traveling public. We have had several accidents caused by coal and coke falling off the top of loaded cars and injuring men, of falling off on their shoulders and breaking their collar bones, or of injuring their heads.

I think there ought to be something done along these lines. These things I have not heard mentioned, but I believe they will be good things to help avoid accidents to the railroad men.

MR. D. H. ZORGER, No. 42, Brotherhood of Railroad Trainmen, Harrisburg, Pa.: Mr. Chairman, I am only a listener at the various sessions of this Conference, but it appeals to me that the theme selected is the prevention of accidents or the planning of such means as will secure the conservation of humanity as a unit against dollars and cents. I want to offer an appreciation as an employe—and I voice the sentiment of a great many who listened to many of the addresses here on the sides both of the employes and employers—of the words that have been spoken for the elimination of unsafe practices and that will bring about something humane in the line of safety first and always. If we act upon their words on our return, in the days to come I feel that you will find the confidence that you have established amongst the employes will be multiplied. I, for one, have entered into this project through the Department of Labor and Industry's request, as a member of an organization that believes in safety first. You have heard numerous remarks upon the line that organization is taking part in, but that is all being

brought about hy the agitation of the employer in his idea of not helieving or hacking the safety first movement. We have heen in earnest. We think that it is necessary hecause no one wishes to lose his life or hecome a cripple. There is nothing more pathetic or that excites our sympathy more than to see someone that has heen maimed. No one wishes to see another taking care of or performing his duties, much less does our organization wish to pay out the henefits that are required to he paid during such time; and it means dollars and cents to the employe in the assessments that go with those figures as well as the compensation that will he paid by the different manufacturers and corporations; and together there is a co-operation that must he felt, and friends and hrethren, it means more than we can conceive, the very idea that we are taking home with us the thoughts that have heen expressed here. I want to say to you that I feel in entering into this movement that I can not do anything more earnestly amongst those I am working with in the different organizations. We expect to help in the near future in this great movement, and it will all depend on the employer and how he is going to act with us.

MR. PETER BOLLENBACHER, Secretary and Business Agent Brewery Workmen's Union No. 22, Pittshurgh, Pa. Mr. Chairman and gentlemen, I am the gentleman that Mr. Wright was referring to when speaking on the liquor question awhile ago. Being compelled to get my livlihood from that husiness I wish to say that the ahuse of it is the same as the ahuse of anything else; and I heard a gentleman speaking this morning of the ahuse of the cigarette. I am ahsolutely opposed to the use of the cigarette, although I never try to tell anyone what he should eat or drink. I believe in education. I helieve in educating the workman and not alone the workman hut every one to ahuse nothing. The ahuse or overindulgence in necessities or luxuries of life is just as had as the ahuse of liquor.

Now, speaking on the sanitation question and the question of preventing accidents, we in the breweries have one accident which costs us a considerable amount in damages to our memhers and loss of lives. In the breweries we have the varnishing of casks. We use two kinds of varnish. The one is what we call shellac or black varnish; the other is the yellow varnish, which is quite dangerous in case of any fire or an explosion or leaking pipe during the time the varnish is heing used in the cask. I spoke to Doctor Jackson the other day in reference to compelling the brewery proprietors in this State to use some method of preventing these accidents, and the only method I see could he used is a sort of suction arrangement to take out the alcohol fumes which accumulate in the vat at the time the vat is heing varnished.

Another thing ladies and gentlemen that I want to call your attention to and that is the question of sanitation. We find that in some places where our teamsters are compelled to deliver packages the saloon keeper does not keep his cellar in the sanitary condition in which he should and also does not place a skid safely or have steps leading into the cellar as safe as they should be.

These are the accidents in the hreweries, the varnish and the delivery of the packages into the cellars, and if the saloon keeper could he compelled in any way, manner, shape, or form to place safe skids and steps and have a sanitary cellar and therehy eliminate these accidents that I have just mentioned to you in the hreweries, that certainly would prevent the loss of life in our industries.

L. A. De BLOIS, Engineering Department, Safety Division, E. I. duPont deNemours & Co., Wilmington, Del. Mr. Chairman, ladies and gentleman, I think the thing that impressed me more than anything else at the Conference the last few days is naturally the thing that I want to take hack with me and apply to our own work, and that applies less to the arousing of the spirit of the men

themselves than it does to the arousing of the spirit in the organization, and I mean by that the manager of the plant and his assistants, his superintendents, and down the line to his foremen. We have been in the accident prevention work from the beginning, because our company is the largest maker of explosives in the world. We could not have any plants if we did not have a great deal of safety. The plants would not last long enough and we could not build them fast enough. We have been in the prevention work heart and soul, in the ordinary industrial accident for the past five years, and I think our plants to-day will compare favorably with others; but where we are weak I feel is in the attitude of the management of the plants. Now, it is not that they don't want safety. They do want safety; and every one of them will say that that movement to prevent accidents is a good thing, we ought to have it, we want it, but, gentlemen, the unfortunate thing in a good many cases is that the thing stops right there. It is passive co-operation and not active. You all know that, as to the character of a plant, the work depends almost directly on the character of the men at the head. If you go into a plant and see a lot of loose material lying around, a place for nothing and nothing in its place, you know it is because the manager of the plant has not come out strongly for good housekeeping; and it is the same way in accident prevention work. It is not the function of the manager of the plant to say, as one manager did to me: "What can I do? Here is a man who goes and slips in front of a car or in front of a train, and here is a Dago slips on a plank over a coal chute and falls, and one thing and another. How can we prevent such things? What can we do?" Gentlemen, that is an improper question for the manager to ask. It is not the function of the manager to ask, "What can we do?" It is the function of the manager to stand up and thump the table and say,—and this is to his superintendents, supervisors and foremen,—"Men, this accident business has got to stop, and if it doesn't stop I will get men who will stop it." It is the function of the man's safety department or his safety inspectors or his safety committees to find out how to stop those accidents and the management or manager should put up to them that part of the question: "This is your job; we want these accidents stopped and it is up to you to stop them. We are going to back you up; we are going to spend any reasonable amount of money and give you all the co-operation we can, and all my men down the line are going to be lined up for safety, but it is up to you."

Now that, gentlemen, is to-day the biggest thing that I have gotten out of the Conference and that is why I tell it to you, and I feel that can be introduced and I know it can, and I will try to introduce it. I think it will be in operation in our plants—to get the right spirit into the safety work—that is, the active instead of the passive spirit. I thank you.

MR. F. A. NEWCOMBE, John T. Lewis & Brother Company, Philadelphia, Pa.: Mr. Chairman, ladies and gentlemen. We received a circular letter the other day from Commissioner Jackson advocating, as I remember it, the Americanization of the foreign workmen, trying to interest plant managers and factory superintendents in getting these foreigners assembled into classes and teaching them the English language. There was not a thing suggested in that letter as to how it should be done and that is one of the things that I came up here to try and get a line on. We are interested in that. We realize, as probably every one else does who is interested in this accident prevention work, that that is one of the most important things possible, to educate the foreign workmen so that they will understand just what you mean and what you want them to do. I have no suggestions to offer myself. I am after information. I wish somebody who has actually tackled the proposition and done something with it could give the Conference the benefit of his experience.

MR. C. E. RALSTON, Jones & Laughlin Steel Company, Pittsburgh, Pa.: Mr. Chairman, I suggest to the gentleman that he take the matter up with the Y. M. C. A. There has been a work issued by a gentleman connected with the Y. M. C. A. on the subject of educating the non-English speaking foreigner, and I believe you can get that through the headquarters of the Y. M. C. A. and it will be a great help to you.

MRS. ANNIE LEISENRING, Inspector, Department of Labor and Industry, Allentown, Pa.: Mr. Chairman, I think that is a problem that not only concerns the mauufacturer, but the inspectors as well. Now in my home town we have a number of large cigar factories employing non-English speaking women. This year there are something like sixteen hundred in all. For the past two years our school board has conducted a school for foreigners and this year we have been successful in getting about forty women to attend that school, and we hope to be able to induce more to do so. There are registered this year possibly—I don't have the correct figures at hand—eighty men and sixty women, but this is the first year that we have been able to induce the women to attend. This is conducted by our Public School Board and there are four teachers under a supervisory principal, James Gallagher, one of the best instructors we have in Allentown, and in a conference with him just the morning before I left he was very enthusiastic over the work.

MR. PAUL KREUZPOINTER, Chairman, Committee on Corporation Continuation Schools, National Association of Corporation Schools, Altoona, Pa.: Mr. Chairman, ladies and gentlemen: It is very gratifying to note the progress we are making in this country when we consider that only fifteen years ago conferences of this kind would have been quite out of place. The reason is that our economic conditions require not only co-operation but a more scientific investigation of what we need. All the foreign born men and women, coming to this country, however dull mentally and illiterate educationally, are possessed of certain valuable traits and characteristics which can be made useful and serviceable to themselves, to their employers and to the country at large if studied and applied.

Coming from monarchial countries, mostly with paternal, and often a more or less autocratic government, they are used to discipline and readily fit themselves into the semimilitary or wholly military regime of our highly organized and specialized industries. More so than the native-born whose ideas and ideals about democratic individuality do not always harmonize with the stern necessities of modern industrial organization. This characteristic of ready submission to discipline, if judiciously cultivated and not abused, in which case the foreigner is liable to become a syndicalist, can be made a valuable asset. This submission is frequently taken by foremen as a sign of stupidity and treated accordingly, but in most cases it is not the result of stupidity but the ingrained habit of hundreds of years of subjection to baronial and monarchial rule. This submissiveness, together with a fair knowledge of the English language can be made useful in teaching safety first principles if their economic value has been properly expounded to the foreigner.

As a rule, with few exceptions, the foreign-born is habitually economical. With the exception of Russia, European countries are poor in resources, hence the inborn necessity for economy, always on the verge of poverty. With few exceptions, being lured to this country by the expectation of higher wages and better living, the immigrant puts these economical habits into good use for his own benefit. These habits, being the result of paramount economic forces in the struggle for existence in European countries, should be all the more welcome in our industrial regime because of our increasing economic pressure requiring more and more the applica-

tion of the same economic scrutiny, making these habits of the foreign born another valuable asset.

These economic habits can also be made use of in training for citizenship by making the immigrant understand that the saving of time and of materials he is using and working with is neeessary to steady not only his job, but the jobs of his fellow workers and the industry he is working for and that if work is slack, or there is no work at all, taxes can not be paid and government can not be kept going.

At home the immigrant from monarchial countries has it constantly dinned into his ears that all that he does is for the state, the government. This sentiment can be made use of by making him understand that it is his duty to use his democratic freedom and individual liberty of action in this country by increasing his knowledge of how best to do his work, and how the government depends upon his economy, frugality, his health, and his intelligence, and orderly, sober conduct just as he was told to do at home only at home the policemen made him do it, while here he is expected to do all these thiugs himself. And trying to do all these things himself, without a policeman watching his every step, is what makes him a good citizen and American, and it is this that he ought to be taught. There are few so dull who can not thus be reached through their work and stomach and many of the habits and characteristics of the immigrant can be turned to account so they may react in his favor, in favor of his employer and of the community. By neglecting the immigrant, or by trying to "Americanize" him with injudicious, seutimental haste, we too often crush many a good quality to his disadvantage as well as to the disadvantage of the employer and the community.

MR. GEORGE LAUB, American Car and Foundry Company, Berwick, Pa.: Mr. Chairman, ladies and gentlemen of this Conference, mueh has has been said and we have heard many words of advice along the liues of safety and welfare, but I believe that one of the greatest causes of accidents has been practically omitted by many of the speakers and side-stepped and has only been touched on reeently. I am not a visionist I believe, but I talk from experience and real facts as I represent a corporation that was one of the originals in the movement for safety and sinee they have started they have reduced the percentage of accidents 82 per cent., which is one of the highest reduetions in the United States to-day; but let me say 50 per cent. of that reduction was done when booze was takeu out of the city. I know that some men will criticize that action, but we know that more than 50 per cent. of the industrial accidents in our town have been caused indirectly because the men had come to work drunk and climbed up into the electric traveling crane carrying steel over the top of men, could not see straight, and the first thing they did, if it was high enough, was to strike a pile of steel which would fall down and kill a man, and the Company would have to pay the bill to the man, and the family had cripples and orphans and widows to take care of. I was both an employe and employer and I speak from both sides of the question. I dou't want to take more than two minutes because I might be called down. I want to say just a few words more. The Workmen's Compensation Board has ruled that when a man is drunk it does not make any difference, the employer must pay the bill if he gets hurt. What are the employers going to do about this? Are they going to employ men who drink? Then if the employers don't employ the men who drink, what are the employes going to do who drink? They must cut it out, must they? I was peeuliarly situated here. I had to go to bed with a stranger. He was a distiller's representative from New York City; he was for booze and I was against booze, and we had quite a discussion before we went to bed; but he made this admission, after I pressed him: "That in 1925 we will have to go

out of the business." Therefore it is up to this Conference to do its part for man and employer to take away that greatest cause of accident that I believe comes into the American industrial world. I thank you.

CHAIRMAN YOUNG: I want to introduce to you Mr. Harlan, a young man from Swarthmore College, and have him just tell you in his own way what he is interested in and what he is doing.

MR. R. B. HARLAN, Swarthmore College, Swarthmore, Pa.: Mr. Chairman, I don't think that I am fit to come and talk to a body of men like this. I have not done very much public speaking. I have only talked to a small student body, but that doesn't get you very far.

I have had a little experience in this world. I worked several years before I went to college laboring alongside the different nationalities and then I went to college. Then I tried to get a little manual and mechanical training, and last summer I went to the Baldwin Locomotive Works and worked there, finally having a small job of foremanship over a few men. While at college I was attracted greatly by the safety first movement, and last year I attended a meeting in Philadelphia and got a little information, to make a thesis on the subject. We expect to fit up a museum and all of the students will have to take part in that work and will have to spend some of their time in the museum studying, and whatever impresses each one the most he will have to write an essay on, and that will be part of his course. All our students must take part in public speaking courses. We have courses in sociology and industrial engineering. I believe not many engineering colleges do this. My purpose in coming here is to get as much knowledge along these lines as possible. I wanted to meet some of the men who came here and I have, and I have quite a line of information. I should also like to have charts on industrial lines and suggestions of that nature so that if any of you men at any time have anything you may wish to donate to such a cause, or any information, we will be glad to receive it. You can send whatever you have to Swarthmore College and it will be cheerfully received and I will thank you now for whatever support you may give us.

MR. PETER GILDAY, Aberfoyle Manufacturing Co., Chester, Pa.: Mr. Chairman and gentlemen, I am interested in the matter of how to reach the non-English speaking foreigner, working in the textile business. Eleven years ago I started in Massachusetts and seeing the change of conditions from that time up to this I find it is absolutely necessary that some means should be brought about to reach the non-English speaking people in a practical way. I am in touch with those people brought into the mills and many times we have to teach them to weave and we have many inquiries as to the pattern they are to weave, and when they are working at the looms and you ask them a question they are unable to answer in the English language, consequently we have to go to the loom fixer. That is lost time I may be engaged in other work and can not give the time that is required to make these people understand what is wanted. I feel that the Department of Labor and Industry should take up this matter and by some means bring about a result that would be alike beneficial to the employer and to the employe for what is a benefit to one should be a benefit to the other. One of the gentlemen, in his paper, in speaking of the accidents said that 90 per cent. of the accidents were attributed to ignorance and while we can not say that this is entirely ignorance of those not being able to speak the English language, still I think it is our duty to adopt some means or measures that will bring about a result that will be beneficial alike to the

workers and to those by whom they are employed. I think also, Mr. Chairman, that this might be brought about by a mutual co-operation between the employer and employe, particularly between the foreman and the manager. I feel that there is a desire on the part of all connected, particularly those in prominent positions, such as managers, superintendents, foremen, and so ou, to show a disposition of mutual co-operation through their loyalty, for loyalty is one of the greatest and grandest essentials in a man's life, to his employer. I think that the best results can be brought about in that way.

I desire also to say that as a textile worker for more than teu years I have been impressed with the papers read here. A great many, of course, bore upon subjects with which I am not familiar, the textile business beiug my line particularly, aud that has not been touched upon specifically at this Conference. Nevertheless we have learned a great deal and I am going back home to the good old city of Chester with thoughts of my own to bring to the attention of those by whom I am employed, with the desire, as I can see is the prevailing spirit in this Conference, to uplift, uplift from one eud of the day to the other.

MR. MARTIN DOYLE, Mine Worker, Williamstown, Pa.: I desire to rise at this time, for the purpose of recommending, if possible, by this Conference the paper that was read yesterday afternoon by Mr. Feehan on the Compensation Law. I find that it is one of the crying desires, especially of the mine workers, that the fourteen day limit in the present law should be stricken out. I never could understand why it is that they should allow an injured person to go for fourteen days before he becomes entitled to compensation. When a person receives an injury if it is of any serious nature at all, it naturally throws him out of his employment, makes him unable to follow his employment and for that reason we believe that from that very day, the day of the accident, the compensation should commence.

Now then I am living in a neighborhood and in a region that is known as the anthracite coal mining country. A number of accidents are taking place, as you can see by the daily papers, every day in the anthracite region. Naturally, of course, those people will and should, most all of them do, come under the Compensation Law, and I have been impressed very much with the paper that was read by Mr. Feehan yesterday, or the amendments that he offered to this Conference, and I believe the Conference as a Conference should go on record as recommending the adoption or enactment of those amendments at the next session of the Legislature. The Mine Workers' Organization in the anthracite region, especially from the district in which I am located and as I find from inquiry and reports from the district officers' reports, in order to have the Workmen's Compeusation Law carried out has been spending hundreds and thousands of dollars in order that their members receive the benefits of the Workmen's Compensation Law. The time of the field workers, that is, the district officers and district organizers, is taken up very largely by compensation work. According to the official reports some of the field workers in fact most of the field workers are really compelled to have their old work, their organization work, set aside in order to look after the compensation work. Now then I don't think it was the intention of the framers of the present Compensation Law that the Mine Workers Organization or any other organization should be obliged to spend hundreds and thousands of dollars in order to carry out the provisions of the Law. I do not know whether the officers in charge of the Compensation Law are performing their duties. I presume that they are; but I do know that the district officers of the United Mine Workers, especially in our district, as I said before, have their time largely taken up on compensatiou work. I find that the company I am working for is instituting measures of safety first; I find that that company has appointed and is paying what they term safety inspectors in their different collieries. I believe they are doing

the best they can to get safety first established, but there is one thing I find is a little bit lacking as far as the State is concerned, and that is the State Mine Inspectors performing their duties. I don't like the way the State Mine Inspectors have in inspecting the collieries. I believe that there is room for improvement and I also believe that there ought to be more mine inspecting, especially in the anthracite region.

Now, I have sat here these few days at the sessions of this Conference and been very much interested. When I came here the first morning I was in hopes that some of the officials, both of the coal companies and of the Mine Workers' Organiations, would be here to read some papers. I was also in the hopes that some of the State Mine Inspectors would be here to read papers and give their experience as to the accidents and causes of accidents in the anthracite region; but not any of them have appeared. I want to have an improvement made in the manner in which the anthracite mines are being inspected. I do not come here, understand, to charge any official or any number of officials, state officials or other officials with the non-performance of their duties, but there is room for improvement along that line.

CHAIRMAN YOUNG Will you just let me interrupt you a moment to explain briefly why no matters pertaining to miners particularly were presented. This Conference is held under the auspices of the Department of Labor and Industry. We have no control over mines. The Department of Mines has control over mining matters and therefore any matters which might be brought up here, while they might be discussed, still it must not be said that we infringed upon the rights of other departments. I believe we want to steer clear of any charge of that character, and for that reason omitted any mention of mines. Mines are in their province and we as a department have nothing to do with them.

MR. DOYLE: Mr. Chairman, I understand the Local Union I represent received an invitation from the Governor to have a representative at this Conference, and upon the strength of that invitation our Local Union appointed me to represent it at this Conference. I have no douht but what a number of local Mine Wo.kers' Unions received the same kind of invitation and these men, at least I was under the impression that the mining question would be brought up here the same as the other questions of the industrial world.

CHAIRMAN YOUNG: The Workmen's Compensation Law, of course, pertains to miners as well as others and in that respect they have just as much interest as other trades represented here, and to employers. In that way, of course, the Department of Labor and Industry has some connection with the miner but not so far as supervision is concerned.

MR. DOYLE: Mr. Chairman, I was under the wrong impression them, of course, but I want to say that I have been impressed considerably, listening to the different speeches and papers read here; and as I said before, we only wish there would have been papers read here on the mining question, especially the anthracite mining question. Yesterday I listened to a gentleman from the Westinghouse establishment of Pittsburgh. Among other things, he went on to tell the amount of energy that was stored iu a certain amount of coal. Now I believe there could be papers brought in here to tell this Conference or other Conferences the amount of energy, human energy if you please, that it requires to get this coal out of the mines, to mine, to dig this coal. These papers along that line would be full of valuable information to a Conference of this kind, I think.

Now, that is about all I have to say and I thank you for your attention.

H. B. VINCENT, Day & Zimmerman, Engineers, Philadelphia, Pa.: Mr. Chairman and gentlemen, it has been suggested that this Conference should take some action relative to a paper read yesterday afternoon covering the Compensation Law. I want to say that if we were to indulge in a thing of that kind—it may already have been indulged in to a slight extent—but if this Conference, representing as it does, capital and labor, were to thereby draw lines and suggest or take action relative to legislation I think we should soon have the line so divided that the purposes of the Conference would be of no use at all, either to the capitalist, laboring man, or the Commonwealth of Pennsylvania. As I understand the object of these meetings is to adjust capital to labor and other interesting purposes, for the purpose of presenting and discussing problems and learning from each other what is transpiring and what is likely to transpire in the future. For that reason I think it would be a bad mistake for the Conference to attempt to take the action suggested, or any action of a similar character.

I have been impressed with all the papers and subjects and intend to take something home with me, take lots home with me, but the main thing that I am going to take home is the fact that this young man from Swarthmore is in the game. That is what we want. We want to start with the younger generation; train men up that they should not do as we are doing; train our workmen and get our employes interested. The men that are going to college now, the boys and young men going to college now, a large majority of them, are going to be employers later on and if we can instill the safety spirit in them now at the time they are going to school and through college the problem is going to be very much simpler in the future than now. I have had the good fortune to have a college education. I have been out of college fourteen years, but when I went to college there was no talk of safety then. I realize that if we can teach college men what we are trying to teach the workers and employers now, that later on the work is going to be much easier.

Then another way to reach the younger generation which has occurred to me, as well to other workers in this line, is through the Boy Scouts. I happen to be particularly interested in one troup of scouts and have already arranged with the Scout Master to give these boys occasional talks on safety first, and if any other of the men present are so situated I am sure they will find they will boost safety a great deal by doing such work.

MR. BROWN: Mr. Chairman and gentlemen, about three weeks ago in one of the largest cities in this Commonwealth a meeting was held representing the manufacturing interests running into many millions of dollars. That meeting was addressed by a representative of a well-known organization which makes a specialty of studying statistics, trade and commerce throughout the entire world. That address was of great interest from many points of view. At the close, the great problem before the manufacturer was stated to be, how to impress upon the workman that he was part of the game just as much as the employer in the office; and the question was, how to get this co-operation from that standpoint. Some unpleasant suggestions were made in the way of fear that so-called unionism would interfere with getting that joint understanding and mutual point of view which is absolutely essential for pulling together in team work. That is the only kind of work that succeeds to-day.

The one point that stands out in this Conference is the attitude of union labor in its feelings which have been expressed on the floor of this room. If I have one message to take back home to my employers it is that there is a new spirit abroad among you union men, a spirit which is going to help everybody to get together. It is the same spirit which the employers are trying to extend to you. They are

trying to extend a hand to you. I see to-day that you are willing to meet that hand halfway. That is the great meassage this Conference spells. It means success for us here for we are all workmen together.

CHAIRMAN YOUNG: It is now approaching the noon hour, and I am sure we all appreciate the remarks of the various speakers who have addressed us during the past hour. Prior to the adjournment of the Conference Doctor Jackson, Commissioner Labor and Industry, wishes to say a few words.

COMMISSIONER JACKSON: I heard Mr. Feehan's suggested amendments as made yesterday, and I have heard the statement of the gentleman who thought we should take action. I should like to take a position, in a way, on this subject. I have already done so frequently. The friends of the Governor and the Attorney-General who prepared the bill for the official side and pushed it through the Legislature, have been deeply concerned with all matters affecting the improvement of the Law. I may say that, as Mr. Feehan said, there was a Commission for some years of which he was a member, and Mr. David Reed was a member, and Mr. Bohlen an attorney, was the most efficient secretary, gathering data from all over the world with regard to this subject. They brought together a great mass of information. When the Governor was elected he called upon his Attorney-General; he got together with all the interests working on this subject; he sent a circular out to the people of the State—you remember that probably—getting suggestions. Then, after gathering together all this matter, he drafted this Law with the help particularly of Mr. Bohlen, the Secretary of the Compensation Commission; and then with the help of many representatives of capital and labor and with the backing of the Governor and Attorney-General the bill was pushed through. I stood here and many of you came here day after day when this room was jammed full with Pennsylvania citizens who were here earnestly helping to get a good bill through. The bill has worked well. We all admit that. Now there is no question but that the suggestions which were made yesterday are every one of them in the line of making the bill more desirable and more satisfactory. They are suggestions which are in line with the thoughts of people who have been for the last year discussing and thinking about the subject, and the suggestions are for the further development of the law, and I believe I express the opinion of the administration that we heartily approve the development of this law along those general lines. We believe the great bulk of those whom we call employers, believe that is correct, and that the great bulk of labor believes those developments are correct. As to when and how exactly those changes shall be developed and made, is a question I believe which the administration and the Legislature will have to decide upon with the advice of the people of this Commonwealth as they took the advice of the Commonwealth when the original bill was drawn.

I want to say to you that we will have published in our bulletins, as rapidly as possible, the addresses of this Conference, and we will send to each one of you who is in attendance copies of those bulletins. I believe that the information brought to this Conference this year was even better in many ways than that of previous Conferences, however good they have been. There have been several new thoughs for the development of the welfare of labor and industry which heretofore have not come up emphatically before us and which I believe have given us a wider information. To indicate a little of the spirit spoken of by the last speaker, Mr. Brown, I want to read you a letter which came to Mr. James A. Steese, who has been in one section of the State, getting the employers and employes together, and who has settled seven strikes in a very short period of time to the entire satisfaction, as it happened, of both sides. I am sorry that can not

always be done. I think as time goes by we can work it out. The letter comes from a God-fearing man, a laboring man, in fact he is one of the labor agents of the American Federation of Labor. He says, "I hope you are well and happy. I have had a very severe cold or should have written you sooner, but felt so indisposed and am not now fully well. Your services, Mr. Steese, have been very valuable to all concerned, and I assure you, words can not place the real value upon them. Why, just think of it: Seven strikes and every one a winner for the public in general and not a particle of violence. May the kind hand of Him, with whom we have to deal be your sure Guide through life. With very best wishes to you." That is a fine letter with a fine spirit. An equally strong and appreciative letter came from the employer. I think, gentlemen, that is fine.

We cannot here in this Conference, I am sorry to say, well pass a definite resolution where there is a difference. If a resolution can come in and be passed, practically a unanimous resolution, then it is entirely right; but where there is a distinct difference and we can not hope to eliminate it, evidently, since this Conference does not come as a delegate body, to vote might be very unfair to those believing in one thing or to those believing in the other; therefore, we would practically do a great injustice, if where a distinct difference exists, we should take a vote in such a gathering as this. However, I believe in such a conference where men who are high in the esteem of the men who represent capital and industry and men who are high in the advising and leadership of our labor interests, and men who are high in the official positions of the people's government, sit down together for two and a half or three days and discuss these vital matters that affect the human welfare, and enormous amount of good can be and has been done. I believe we shall all leave this series of meetings feeling better from them. I believe we shall feel more kindly toward each other. I believe we shall be inspired—I know that I shall be and I know the men on my force will be inspired—to more energetic efforts and more humane views toward life and people.

I take pleasure in adjourning this meeting, but as a matter of fact I also do so with more or less sorrow. I feel that there has been such a friendly, social, kindly spirit pervading the whole meeting that really I am sorry to say it, but it is my duty hereby to declare this Fourth Annual Industrial Welfare and Efficiency Conference adjourned.

THURSDAY, NOVEMBER 23, 1916.

MEDICAL SESSION—9.30 O'CLOCK.

Chairman FRANCIS D. PATERSON, Chief, Division of Hygiene and Engineering, Department of Labor and Industry.

The meeting was called to order by the Chairman at nine thirty o'clock a. m.

CHAIRMAN PATTERSON: It seems to me that I can best express the need for the physician as an integral part of the modern industrial establishment by giving to you the figures of what the actual accident rate is in our great Common-

wealth of Pennsylvania, the greatest industrial state in the world. During the year preceding the passage of the Workmen's Compensation Act we thought we were getting a one hundred per cent. report of the accidents in the State; in point of fact, as the figures have now demonstrated, we got a report of only twenty-five per cent. of the accidents, for while the year 1915 showed a total of approximately sixty thousand accidents reported in the State, in the little more than ten months that have elapsed since the Workmen's Compensation Act went into effect we have had reported to the State over 209,000 accidents with a disability period of forty-eight hours, and of this number of accidents a little over 2,100 have been fatal. It seems to me it needs no words of mine to emphasize the need in every industrial plant in this State for the trained physician, who, by his wise counsel and advice, can do his part in showing the management how these accidents can be prevented, and can be upon the spot to render competent professional services to these unfortunate victims of industry; and I am convinced that if every plant within this Commonwealth had the services of gentlemen such as you, this frightful toll would be, in a material measure, lessened.

It is my privilege this morning to introduce to you the Honorable John Price Jackson, Commissioner of Labor and Industry of this Commonwealth, who will say a word to us in welcome.

ADDRESS OF WELCOME

By Commissioner JOHN PRICE JACKSON, Department of Labor and Industry.

COMMISSIONER JACKSON: Mr. Chairman, I do not think that we need a more enthusiastic welcome than your Chairman feels for you, and has given you. However, it is a great pleasure to me to be here and to see you here, because I believe that this getting together of the industrial physicians, if I may so term you, is one of the great movements in a great cause. Some of you probably were in the very first session of this Conference when I made my opening remarks on Tuesday morning, others were not, and I am going to repeat. You probably know, more than anybody else in this State, how last summer, the mothers and the fathers, the aunts, the uncles, and the grandparents, were worked up to a keen sense of anxiety, ready to take any measure whatsoever, in order to protect their children, or their young relatives, from the scourge of infantile paralysis. You appreciate possibly more than any other class of men, the anxiety and earnestness to do everything possible to prevent the spread of that disease and to stamp it out so that it would not sweep over the State. We all recognize that this sentiment of our people caused a great quarantine to be placed by our Department of Health; you recognize that this State Department was absolutely upheld by our people in putting on that quarantine; you recognize that our Department of Health shut down our schools and shut out ten thousand children, in order to prevent the spread

of that disease, and you recognize how the people upheld that action; you recognize how the order went forth that no child should go into gatherings and how the people upheld that, to a very large extent; and yet, gentlemen, as I look over the records there was not a single day when there were as many cases of infantile paralysis, by a large majority, reported, as there were cases of industrial accidents. Moreover, the number of serious permanent mutilations due to infantile paralysis, during the period of infantile paralysis, was far less than the number of permanent mutilations in the case of industrial accidents. The number of deaths from infantile paralysis was in this Commonwealth far less than the number of industrial deaths during the same period. Now the curious psychological feature about this is that we felt so disturbed and took such active measures, and yet we sit down in some kind of apathy and let this industrial accident list, this terrifically appalling list, that causes suffering not only by the actual injury to the man, but by making widows and orphans those who are dependent upon the man, and let this list go on day in and day out, week in and week out, month in and month out, and year in and year out, not beginning with the hot weather and closing with the cold weather, as does infantile paralysis, but going on steadily; we let this all happen with apparently no disturbance of our appetites, no disturbance of our sleep, no anxiety; we seem to be in a stupor. You gentlemen know what this means, you get into the plants, you see the injured, help carry him off on a stretcher, and dress his wounds. I believe, gentlemen, the big thing that you have to do in this Commonwealth, and in this nation, more than any other people, because you do know, because you are alive to that situation, is to help to waken the people up out of this terrible stupor, so as to wipe out this absolutely unnecessary loss, at least two-thirds of it. You gentlemen are, of course, here primarily today to do what is your big duty—to study together how you can take hold of the injured man and patch him up, put him together, if he has been pulled to pieces, and save his life with the least possible injury to that man. It is a great big humane work, and by it you have already accomplished in your previous meetings this year and by what we know has been accomplished in the matter of accident prevention, a great work. We know that through your meetings you are going to do an enormous amount to cut down the suffering and the loss from your end, the end of the doctor. But while you are doing this, if you can carry away with you, each one of you, the inspiration to break down this wall like lethargy, you will have done an equally great service to our people.

I welcome you, and I welcome you I know in the name of the Governor, who came to the first meeting, which is the whole genesis of this meeting, and he expressed a very earnest, warm welcome; so

that in welcoming you I speak for the administration of the State. We thank you, we appreciate your aid and the energy you put into coming here and we know that great good will come therefrom.

CHAIRMAN PATTERSON: I am sure we are all appreciative of these words of welcome, expressed so ably by Commissioner Jackson. We shall now pass on to our regular program.

There is no subject that I know of to-day that is exciting more attention than the subject of health insurance. It has been estimated by those who have made studies of this problem, that the worker in the United States loses an average of approximately nine days a year through sickness, and that this loss, if the loss be due to misfortune, can never be expressed or interpreted in the sordid terms of dollars and cents. This loss, which falls upon our nation, not only upon the man who is ill, but also upon the manufacturer, the sum total, is up in the many millions. This subject of health insurance is one that must intimately concern the medical profession, and I believe in the last analysis that the medical profession is more intimately concerned with the subject of health insurance than is any other citizen of our nation, so it seems fitting that at this meeting we should have this subject discussed by those who by their experience and investigation are most competent and able to present it for our attention. Dr. B. S. Warren, of the United States Public Health Service, has done a marvelous piece of work in his investigation on this subject upon behalf of the United States Government. Owing to the fact that Dr. Warren was detained in Washington upon official business of the Federal Government, it is my pleasure and privilege to introduce to you this morning, to use the Irish expression, a man who needs no introduction, I refer to Dr. J. W. Schereschewsky, of the United States Public Health Service, who will present for our attention the paper prepared by Dr. Warren.

HEALTH INSURANCE—ITS POSSIBILITIES AS A PREVENTIVE MEASURE

By DR. B. S. WARREN, United States Public Health Service, Washington, D. C., and EDGAR SYDENSTRICKER, Public Health Statistician United States Public Health Service.

The preventive possibilities of health insurance necessarily constitute its principal point of appeal to those who are interested in the improvement of the public health. This does not mean that there is any desire to minimize the tremendous importance of the financial and medical relief which health insurance will afford to the sick wage earner and his family. It does mean, however, that there is a desire on the part of health officials to include in health insurance laws, provisions for the prevention of disease. Such a desire would seem to be logical if these measures are to be enacted into law on the ground that they are health measures. This point of view on the part of health officials is but natural in a time when modern medicine and health administration are developing along

constructive lines and are seeking in all directions for effective methods of disease prevention. as well as of relief and rehabilitation.

There appears to be general agreement among those who are advocating govermental health insuracce in this country that it does possess great possibilities of a preventive character. In fact, one of the chief arguments in its favor is that it would be essentially a preventive measure. It invites, therefore, as well as demands, the attention of all who are interested in the "New Public Health." For these reasons it is important at this time to review the provisions in the proposed state measures for health insurance from the point of view of prevention, and to give consideration to the basis for the arguments that have been made for them as preventive measures. In the following pages a brief review has been made of the preventive features of the relief provisions in the proposed state measure and of the familiar argument that they will stimulate the general campaign for disease prevention, together with a consideration of the proposal that health insurance should be directly correlated with the existing public health agencies in order that they may be rendered most directly effective, both for the purposes of relief as well as for purposes of disease prevention.

1. UNDER THE PROPOSED STATE MEASURES.

1. Preventive Features of Relief Provisions.

The health insurance bills introduced in the 1915-1916 legislatures of New York, New Jersey, and Massachusetts, with amendments suggested in the tentative draft of an act submitted for criticism and discussion by the committee on social insurance of the American Association for Labor Legislation,[1] proposed that all manual wage earners and all other workers earning less than $100 a month should be insured.[2] It was proposed that, in case of disablement from any cause not covered by workmen's compensation, the following minimum benefits should be provided: (1) Medical, surgical and nursing attendance from the first day of sickness for a period not to exceed 26 weeks in any consecutive 12 months; (2) Medical and surgical supplies and appliances prescribed by the physician, not

(1) Brief for Health Insurance, American Labor Legislation Review, June, 1916, pp. 239-268.

(2) Employes of the United States and employes of the State or municipalities for whom provision for sickness is already made, are exempted. Especial regulations for home workers and casual employes were to be made by the state social insurance commission. *Ibid.* pp. 241-242.

to exceed $50 in cost in any one year;[3] Each benefit, not to exceed two-thirds of the wages of the insured worker, beginning with the fourth day of disability for a period not to exceed 26 weeks in any consecutive 12 months;[4] Maternity benefits[3] and funeral benefits.[4] In addition it was proposed that medical and surgical attendance and medicines should be provided for dependent members of the families of insured workers, and that hospital and sanatorium treatment should be furnished, were advisable, instead of all other benefits.[5]

Extension of Medical Service. It is evident that adequate medical, nursing and hospital relief, which, as a rule, is now within the reach of only the rich and of those who are willing to accept it as charity, would under the above provisions be available for all wage earners and their families.[6] It is evident, also, that shorter periods of disabling sickness and a decrease in the frequency of sickness would be brought about when the wage earner could share in the full benefits of the progress of modern clinical medicine and surgery. Such results will inevitably follow when wage earning families, receiving either no medical service at all, or treatment too long delayed, or treatment of dubious value, can receive adequate medical advice and service on a basis of legal rights. Adequate medical service would mean prompt treatment as well as continuous treatment, and the danger of "putting off" treatment and of relapse would be decreased. The unnecessary mortality of mothers and children in confinements, and the permanent disability resulting from the lack of proper obstetrical service and from the necessity for mothers to return to

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(3) Maternity benefits were to include "all necessary medical, surgical and obstetrical aid, materials and applicances" for insured women and wives of insured men and a cash benefit equal to the regular sick benefit of the insured women for a period of 8 weeks at least six of which should be subsequent to delivery on condition of abstaining from gainful employment during that period. *Ibid.* p. 250.

(4) Actual expenses of the funeral of a deceased insured person, not to exceed $50 are proposed in the tentative draft. *Ibid.* p. 250.

(5) Provided, however, that "A cash benefit equal to one-third of the wages of an insured member receiving hospital treatment shall be paid to his family or other dependents while he is in the hospital." *Ibid.* p. 249.

(6) "The medical care which is made a matter of legal right by the proposed plan of health insurance is far above that enjoyed at the existing time by the wage-earner, who is compelled too often to accept charity or to forego the expert medical aid required. The family of the insured also will be provided with requisite medical aid, which will at least greatly reduce and probably eliminate entirely the expenditure for doctors' bills on an individualistic basis and assure medical advice when there is need of it." *Ibid.* pp. 215-216.

work too soon after confinement, would undoubtedly be lessened by the provisions for maternity benefits.[6]

Health Preserving Effect of the Money Benefit. The payment of a substantial part of the wage during sickness would materially aid in breaking the vicious circle in which poverty is a link both as a cause and effect of disease. The cash benefits would very likely prove to be as valuable in the matter of disease prevention as any of the relief features embodied in the proposed measures. "It needs no demonstration to prove that recovery from any illness must be seriously interfered with by insufficient food or fuel or by the mental worry over financial difficulties."[7] The importance of the relation of income to health is too well known to need discussion here.[8] It is only necessary to emphasize the fact that health insurance, as a means of financial relief to wage earners in times of sickness would be of great value in preventing disease.

2. STIMULATION OF THE GENERAL CAMPAIGN FOR DISEASE PREVENTION.

In addition to the benefits of the relief provisions, one of the principal arguments presented in support of the various measures has been the statement that they would stimulate the general campaign for disease prevention.[9] In fact, this preventive result has been emphasized by practically all recent publications favoring health

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(6) "Through a health insurance system such as that embodied in the model bill, which provides an obstetrician for the wives of its members, as well as for insured women, it will be possible to supervise the character of the services rendered to those who to-day can be tempted to engage a dirty midwife because her fee is less than that of her more cleanly competitor. The payment of a cash benefit equal to two-thirds of wages will enable the wage earning mother to continue her usual contribution to the normal family expenses for food, rent, heat, and light, even though she be unable to continue industrial employment, either because she is physically incapacitated or because the law, as in several states, compels her to remain away from work for a prescribed period immediately before and after birth of her child. This payment will tend to prevent a lowering of the family standard of living at the time when it is most essential that the mother and baby have all the usual comforts of life." *Ibid.* p. 221.

(7) I. M. Rubinow—Health Insurance in Its Relation to Public Health. Journal of the American Medical Association. Sept. 30, 1916, p. 1012.

(8) The results of various investigations and studies on this point have been reviewed in U. S. Public Health Bulletin No. 76: Health Insurance—Its Relation to the Public Health.

(9) Brief for Health Insurance, American Labor Legislation Review, July, 1916, p. 230.

insurance in the United States, but with certain important qualifications on the part of some authorities.[10]

Preventive Possibilities Suggested Under the Proposed Measures. The following are the principal considerations upon which arguments are based that the proposed measure will create a stimulus for disease preventing campaigns: (1) The sickness statistics, which will be rendered available from the disability certificates will aid systematic efforts ot improve health conditions;[11] (2) The interested co-operation of employes and employers will be enlisted in the reduction of sickness;[12] and (3) a financial incentive to reduce the sick rate will be afforded by the provisions for cash benefits.

The greatest emphasis has been laid upon the preventive possibilities of this financial incentive. The committee on social insurance of the American Association for Labor Legislation, in its Brief for Health Insurance, has suggested that as the result of this incentive, the following preventive effects might be expected: (1) The development of factory sanitation[13] in the same way as the re-

(10) See final report of the United States Commission on Industrial Relations, 1915. I. M. Rubinow—Health Insurance in its Relation to the Public Health. Journal of the American Medical Association. Sept. 30, 1916. U. S. Public Health Service Public Health Bulletin No. 76: Health Insurance Report of Standing Committee adopted by the Conference of State and Territorial Health Authorities with the United States Public Health Service, Washington, D. C., May 13, 1916. Reprint 352 from U. S. Public Health Reports.

(11) I. M. Rubinow *loc. cit.* p. 1014. See also description and commendation of the Vienna plan by Lee K. Frankel, sixth vice-president of the Metropolitan Life Insurance Company, in a paper on Occupational Hygiene read before the Detroit Conference, Sept. 4, 1913, p. 9.

(12) See Brief for Health Insurance, *loc. cit.* p. 187; Rubinow, *loc. cit.* p. 1014.

(13) "Factory sanitation, for instance, will be developed. The system of financing adopted in the bills introduced in the legislatures of Massachusetts, New York, and New Jersey in 1916 make the incentive very direct. The contributions must be calculated so as to suffice for the payment of benefits and for administrative expenses; thus contributions may vary from year to year with an increase or a decrease in the amount of sickness. Since the insurance unit is the locality or a single trade, a high sickness rate in a community or a trade will be noticed at once by the employers in the high contribution; all prospect of decreasing the contribution by reducing sickness will make for the prevention of illness through the means most readily at the command of the employer, namely, improvements in factory sanitation. Where several industries are insured in one fund financial pressure can still be brought to bear upon each industry by varying the contribution to correspond with the sickness rate in each industry. Even the individual establishment which has an excessive rate of sickness can be reached by assessing an additional contribution upon such an employer without right of deduction from the employe. Thus the high cost of insurance will call attention both to an excessive amount of sickness and to the possibility of reducing expenditure on insurance premiums through the prevention of sickness. The interest of the employer in prevention of disease and in improved sanitation will at once be enlisted." Brief for Health Insurance, *loc. cit.* p. 230.

duction of accidents under workmen's compensation laws; (2) the stimulation of preventive medicine through the opportunities afforded for early diagnosis, periodic examination of employes, and treatment of defects revealed by examination; (3) the stimulation of "more adequate medical machinery for the prevention of disease;" (4) an increased popular interest in disease prevention;[14] (5) an increased governmental interest in disease prevention;[15] (6) an increase in the activities of local and trade funds "in attacking local causes of sickness."

These far-reaching effects are so greatly desired and have so long been recognized as prominent goals for public health work that they can not fail to impress all who are interested in the prevention of disease with the importance of health insurance as a public health measure. Any proposal which promises even the least of these results merits careful consideration. It is essential, therefore, that careful scrutiny be given to its preventive features and possibilities. Some points suggested by an examination of them are briefly outlined below.

The enactment of such health insurance laws as were preposed in several state legislatures in 1915 would undoubtedly tend to bring about some of the results suggested above. Manifestly, the sick certificates would afford more extensive morbidity reports for the wage-earning population than are possible for existing methods. Furthermore, a far more just and practicable basis than is at present prevalent would be afforded for the co-operation of employes and employers in the prevention of disability from sickness. The tendency also would be to reduce the cost of sick benefits by taking measures to reduce the amount of disabling sickness, especially under conditions where the sick rates were seen to be abnormally high. But from a public health standpoint, the question arises whether these proposed measures adequately meet the situation. In other words, could these measures be strengthened by additional provisions so that they would become more fully and directly preventive?

Inadequacy of Preventive Provisions in Proposed Measures.

Aside from the preventive features of the financial and medical relief provisions, the chief preventive significance of the proposed measure lies in the financial incentive for co-operating employers and

(14) "Popular education on disease prevention may form one of the activities of the insurance funds." *Ibid.* p. 234.

(15) "Governmental interest in comprehensive campaigns for sickness prevention will be intensified through the increase in the state contribution to the sick funds with an increase in the amount of illness. The possibility of reducing this appropriation will impel the state administration toward more extensive public health work." *Ibid.* p. 23.

employes to lessen sickness. It is, of course, difficult to estimate the force of this incentive, or to forecast its probable effects. The most that can be claimed for it is that it will be a stimulating, energizing force for disease prevention. It would not be, and could not be expected to be, definitely related to any disease preventing methods or machinery but its power, so to speak, would be utilized in such ways as might happen to be most convenient. It has been suggested that this might be through an employer alert to the uneconomical loss of labor from sickness, or through a physician who might be specially interested in preventive medicine, or through the attention of local funds to excessive local sickness prevalence, or in other more or less unrelated ways. Again, the possibilities of the financial incentive for sickness prevention provided in the proposed laws apparently have been estimated upon the basis of the notable results of this incentive for accident prevention provided in workmen's compensation laws. There are thus suggested at least two possible limitations upon the preventive results of the financial incentive: (1) The strength of the incentive itself, and (2) the method of utilizing its powers and of rendering it most effective.

A well-known student of health insurance has quite recently suggested a very important limitation upon the strength of the financial incentive for disease prevention. He states: "In compensation (laws) the entire cost is placed upon the employer. It is the employer who feels the new economic pressure and is largely responsible for the 'Safety First' campaign. Under a proper health insurance scheme the burden of cost is distributed among employer, employe, and state. The economic force is, therefore, somewhat diffused."[16] The point appears to be well taken, especially in the light of German experience. In Germany the prevention of occupational diseases was not under-

(16) I.M. Rubinow, *loc. cit.* p. 1014. "It is pointed out," says Dr. Rubinow, "that the 'safety first' movement resulting from compensation legislation must be paralleled by a 'health first' movement in consequence of health insurance laws. Yet catchy slogans, though often useful in a way, do not result in substantial changes of social conditions. It is argued that all these desirable results will be accomplished by the economic motive to reduce the cost of health insurance, as the 'safety first' movement was stimulated by the cost of compensation. That is undoubtedly a substantial force, but its strength may be exaggerated. * * * * It is important to remember that the economic motive does not work itself out automatically." (p. 1012) Dr. Rubinow suggests that "democratic and local administration (of the sick funds) is absolutely necessary" to retain the effect of the diffused financial incentive under health insurance, and refers to the preventive features of the financial relief provisions (already outlined in the foregoing pages), to morbidity statistics afforded by reports, and to maternity insurance, and proper organization of medical aid, as ways in which the preventive effect of health insurance may be realized.

taken, for example, until occupational diseases were classified as coming under the provisions of the accident law where the financial incentive was not diffused.[17] The antituberculosis campaign, which has been sometimes credited altogether to sickness insurance, was principally the result of invalidity insurance in which the financial incentive was also direct and effective.[18] The preventive influence of sickness insurance, on the other hand, was long in making itself felt. It did not work out automatically. Preventive efforts were not inaugurated on an extensive scale until local funds in the larger centers were consolidated into large societies.[19] Furthermore, it must be kept in mind that the growth of preventive activities in Germany has not been the result of any one form of social insurance, but that it is the cumulative effect of the several kinds of insurance which constitute Germany's extensive social insurance system, of a governmental poor relief system,[20] and of the development of a strong economical motive to prevent loss of labor efficiency and waste of human energy, which is clearly distinguishable from the financial incentive to reduce the payments of cash benefits.

The financial incentive in proposed health insurance laws will necessarily be more diffused than under accident insurance laws, because

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(17) Lee K Frankel, sixth vice-president, Metropolitan Life Insurance Company in Industrial Insurance the Basis of Industrial Hygiene, Transactions of the Fifteenth International Congress on Hygiene and Demography, Washington, 1912, Vol. III, p. 893. "Eventually," said Dr. Frankel in discussing social insurance in Germany, "when certain industrial diseases were classified as coming under the provisions of the accident law, the employer found it of financial benefit to equip his establishment so that such disease would not occur."

(18) This fact appears to be clearly presented by all writers on the antituberculosis campaign in Germany who have had occasion to study its development at close range. See, for example, the monograph on "Care of Tuberculous Wage Earners in Germany" by Fredrick L. Hoffman, published as Bulletiin 101 of the U. S. Bureau of Labor. (1912). The financial incentive for those in charge of invalidity insurance to prevent tuberculosis is suggested not only in the consideration that tuberculosis of the lungs was responsibile for a large proportion of the disability annuities, the annuities themselves relatively large in comparison, for example, with benefits for temporary disability from sickness, and the expectation of annuity payments greater than in the case of other causes of invalidity, but in the fact that there was the possibility of rehabilitating a large number of tuberculous workers and rendering them self-supporting again. Tuberculosis of the lungs was found to be responsible for 15 per cent. of the disability annuities granted to males and for 0.5 per cent. of those granted to females. Mr. Hoffman stated: "The importance of tuberculosis as a cause of invalidity—or wage earners' disability—is better emphasized by the statement that of the annuities granted during 1896 to 1899 the proportion paid to males at ages 20 to 24 on account of tuberculosis of the lungs was 54.9 per cent; at ages 25 to 29, 50.9 per cent; at ages 30 to 34, 43.9 per cent; and at ages 35 to 39, 36.7 per cent. The proportions for females were, at ages 20 to 24, 42.6 per cent at ages 25 to 29, 34.3 per cent; at ages 30 to 34, 25.8 per cent; and at ages 35 to 39, 20.0 per cent."

the cost of health insurance is distributed among employes, employers, and the state. It, therefore, appears fair to conclude that, in the discussion of the preventive possibilities of the proposed laws, there has been a tendency to expect too much from the financial incentive. Certainly, the expectation that it would have the same relative effect upon employers as under the accident laws seems to be doubtful. Nor does the mere fact that employers and employes cooperate in the support and control of local funds necessarily mean that preventive activities will result. The German experience under similar conditions was that such activities did not result. The truth of the matter seems to be that a wrong preventive significance has been assigned to these features of the proposed measure. A proper estimate of their possibilities in disease prevention would appear to be that the joint support and control of the local funds affords a basis for co-operative effort, and that the setting of a cash value upon health affords a stimulus to action, but that an outlet for action is lacking. Unless some definite, direct means for preventive activities is especially provided or some suitable machinery for preventive work is made available in health insurance laws, there is little reason to hope for the full preventive effects of health insurance. If they come at all we may expect them after years of very gradual development, as in Germany, and only then with such changes and adjustments of the health insurance organization as will provide the needed machinery for prevention.

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(19). Frankel, *sup. cit.*, pp. 893-894. "A development similar to the above (the prevention of industrial diseases under the accident law) has taken place more recently in connection with the sickness insurance scheme. The reason for this later development is readily seen. The sickness insurance associations, until within recent years, have been organizations with limited membership, the workmen themselves having the larger representation in the boards of control. It was impossible for sickness societies with several hundred members to institute measures of prevention in the hope of reducing the amount of sickness. It is questionable, in fact, whether in the earlier years these societies, owing to their peculiar structure, realized the possibility within themselves for improving the health of their members. Workmen, even when organized, have as yet not had the financial stimulus for a comprehensive scheme of social engineering."

(20). See the paper of Dr. Friederich Zahn, Director of the Bavarian Royal Statistical Office, before the Fifteenth International Congress on Hygiene and Demography, Washington, 1912 (Transactions Vol. VI.) "There has arisen," he said, "a significant distinction between poor relief proper in the narrower sense of the term: Namely, necessary provision for the destitute, and the modern social hygienic measures to anticipate and prevent destitution. The tasks of poor relief in the narrower sense have been diminished by workingmen's insurance poor relief in the broader sense has been given a wider field of activity, which is still growing." (p. 317).

The practical question thus suggests itself:

In order to render health insurance an immediately preventive measure, would it not be best to provide in the health insurance law for the needed machinery for the prevention of disease?

II. CORRELATION OF HEALTH INSURANCE WITH PUBLIC HEALTH AGENCIES.

If it were necessary to construct entirely new health machinery for this purpose, some question might be raised as to the practicability of a provision of this kind. But this does not appear necessary. Such machinery as already exists in the state health departments should be utilized and the attempt should not be made to create within the health insurance system an independent health agency. If the state is to enact a health insurance law on the ground that it will be a measure for the prevention of disease as well as for the relief of sickness, and is to participate in its support, control and administration, it would appear eminently practicable and proper for the health machinery of the state to be utilized. In this way the full advantage of existing preventive facilities afforded by strong state departments of health could be utilized. Inefficient, poorly organized state departments of health could be adequately developed with much less cost and effort than could the creation of new and independent agencies.

Such a step would be in harmony with the development of public health activities in the United States. It is hardly necessary to point out that the situation as regards public health administration in Germany when its sickness insurance system was established, is not analogous to the present situation in the United States. The first German sickness insurance laws were enacted over 30 years ago, before the modern conception of public health administration existed. They were designed as relief measures primarily. The development of preventive activities and the establishment of private and insurance institutions for relief and prevention of disease came very gradually along with a public awakening to the need for preventive measures, and naturally found expression in the agencies most fully equipped and developed, viz, its comprehensive social insurance system; its poor relief system; and the Imperial Health Department. In the United States, on the other hand, the development of preventive activities has been along public and semipublic lines, instead of through health insurance organizations. The utilization of existing public health agencies in the preventive work of health insurance thus appears not only practicable but thoroughly in line with the direction of the public health activities in the United States. The fact that

some of the large commercial insurance organizations, in their effort to lengthen life and reduce sickness, are seeking to stimulate, co-operate with, and utilize public health agencies is an indication, it would seem, of the natural method of developing preventive activities in this country.

1. PLAN FOR UTILIZING STATE HEALTH AGENCIES.

The importance as well as the feasibility of such a correlation of a state health insurance system with the state health agencies was recently recognized and emphasized by health authorities of the various states and territories in a report adopted at their last annual conference with the United States Public Health Service at Washington. This report said:[21]

"In the bill for health insurance that has been introduced in the several state legislatures the German plan has been followed, the matter of providing medical benefits has been left in the hands of the local bodies, and no provision has been made for correlating the system with existing health agencies. These are serious objections, since without such provision a health insurance law will have little value as a preventive measure, although it may meet with the approval of those who advocate it as a relief measure."

It was proposed that this co-ordination of the work of the health insurance system with the public health machinery should be effected in the following manner:

(1). By providing efficient corps of medical officers in the state health departments to carry into effect the regulations issued by the state insurance commissions and to supervise the medical service; and (2) by providing for a close correlation of the health insurance system with state, municipal, and local health departments and boards.

To carry this into effect the following plan is suggested:

1. Make the state commissioner of health an exofficio member of the state health insurance commission.

2. Detail a medical director from the state health department to assist the commission in supervising the administration of the medical benefits and to act as health advisor and director.

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(21). Health Insurance.—Report of Standing Committee adopted by the Conference of State and Territorial Health Authorities with the United States Public Health Service, Washington, D. C., May 13, 1916, U. S. Public Health Reports, July 21, 1916. (Reprint No. 352, p. 6.)

3. Detail district medical directors from the state health department to aid in the administration of the medical benefits in their respective districts.

4. Detail from the state health department a sufficient number of local medical officers to act as medical referees and sign all disability certificates and to perform such other duties as may be authorized by law or regulation.

This would provide a health machine composed of a corps of trained sanitarians subject to central control and direction.

To give some idea of the size of such a corps it may be tentatively estimated that it would require one medical referee to every 4,000 insured persons. In a state with 1,000,000 wage earners this would mean 250 local medical officers giving their entire time to the study of the health of the insured persons. This, of course, would be in addition to the medical treatment furnished by the panel physicians.

The objection could not be offered that such a corps would be too expensive, for it must not be forgotten that all measures now advocated provide for medical referees. The only additional expense incurred by this plan would therefore be for the medical director and the district medical directors.

Even if the expense of the whole corps were an additional expense, the cost would not be prohibitive because the medical referees would more than save their salaries in the disallowances of unfair claims. Furthermore, while an estimate can not be made of the amount to be saved by the entrance into the homes of the sick, insured persons by these health experts, it is safe to say it would be many times more than the sum of their salaries.

The feasibility and the advantages of this plan may be reviewed briefly in the following paragraphs:

2. CORPS OF FULL-TIME MEDICAL OFFICERS.

The plan proposed above is primarily based on the organization of a corps of full-time medical officers to be detailed from the state health department.

Qualifications and Duties.

It is proposed to select these officers according to civil service methods, their qualifications to be based upon their knowledge of preventive as well as of clinical medicine, and to make their term of office permanent after a probationary period of service satisfactory to the health administration, subject to removal only for inefficiency or

immoral conduct. It has been suggested that they should be subject to periodic examinations in order to determine their efficiency. Their duties have been outlined as follows:

(1) To examine all insured persons claiming to be disabled, and issue certificates in accordance with the regulations promulgated by the commission; (2) to advise with the physicians attending sick members as to measures which will shorten the periods of disability (3) to have supervision of all hospital and dispensary relief; (4) to advise the administrative authorities and all contributors to the funds as to the best measures for the relief and prevention of sickness, and (5) to perform such other duties as may be fixed by regulations.

Some Advantages of the Plan.

The consensus of opinion among students of health insurance is that medical referees are necessary for efficient administration, but there appears to be some difference of opinion as to the party to which the referee must be responsible. As Dr. Alexander Lambert has pointed out, "there are three antagonistic groups in your health insurance law—the interests of the carrier, the workman, and the physician,"[22] and it seems hardly necessary to suggest that the control of referees by any one of these interests might be unfair and very probably would be detrimental to the operation of the insurance fund. On the other hand, if the referees are state officers and employed under the state department of health, they would be untrammelled in the exercise of their duties[23] and would bring to the health insurance system many other important advantages.

This plan can be very easily fitted into the measure proposed by the social insurance committee of the American Association for Labor Legislation by amending the section which provides for the employment of medical officers (medical referees) by the individual carriers so as to provide for their employment by the state under the health department as referred to above. This would be directly in line with the development of public health administration in the United States in which the all time local health officer is considered the proper unit

(22). Discussion in the section on Preventive Medicine and Public Health, 67th Annual Session of the American Medical Association, Detroit, June, 1916, abstracted in the Journal of the American Medical Association, Sept. 30, 1916, p. 1018.

(23). "Make state officials the referees. The referee is then not considered as one of the medical corps. Because, just as soon as you make the man who decides whether a patient is sick also decide whether he shall go to work, you incur the expenses and put a possibility of undue influence between the patient and the physicians which is human and can not be ruled out."—Lambert. *Sup. cit.* p. 1018.

of a model health organization, since the referees would not only act as medical referees, but would also be the all time local health officers possessing the authority of the state and also an unprecedented opportunity for preventive work. The advantages of this method of employment are far greater than would be the case if the medical officers were locally employed by the carriers. Among the advantages may be mentioned the following:

a. In the Selection of Medical Officers.

The prestige of state appointment and the permanent tenure of office will attract better men at the same pay than would local appointment with a tenure of office subject to the whim of the local management of a carrier.[24] Men of this type are not to be found in every locality, so that the question may well be raised as to whether physicians with the proper qualifications would usually be obtained if employed by the carriers. The probability is great that local politics, personal considerations, relations with other local physicians, and the absence of qualified men in a locality would often interfere with the selection of medical officers who are qualified to pass on the diagnosis of other physicians, to supervise the character of the medical service, and to initiate and direct measures for the prevention of disease. Certainly the unfavorable experience of small localities, and even of some large centers, in the selection of local health officers has afforded an example in the development of public health administration in this country which is not without its significance in this connection. If, however, the medical officers are selected as state officials by examination according to a uniform standard of qualifications, the chances for obtaining properly trained men and for eliminating the local obstacles to the work of referees are greatly increased. If the further requirement of special training and experience in preventive medicine is provided, there would be made available for each carrier or local group of carriers a trained health officer who would be skilled not simply in diagnosing disease when it occurs, but also in recognizing and removing disease causing conditions.

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(24). The tentative draft of the health insurance act submitted for criticism and discussion by the committee on social insurance of the American Association for Labor Legislation provides: "Section 11. MEDICAL OFFICERS. Each carrier shall employ medical officers to examine patients who claim cash benefit, to provide a certificate of disability, and to supervise the character of the medical service in the interests of insured patients, physicians, and carriers." American Labor Legislation Review, June, 1916, p. 248.

b. In An Organized Corps.

There would be created an organized corps of medical officers with a centralized health administration within state, district and local boundaries. These officers would constitute a mobile corps, capable of being shifted after specified periods of service in any given locality to other localities. This would tend to eliminate local influence of any sort, increase their independence in action, and permit them to have a better perspective. By this interchange of station, the experience of one locality would be more easily available for other localities, and the officers themselves would become better trained and more fully equipped for all of their duties. The very fact that they would belong to an organized corps would greatly accrue to the advantage of their work and of the health insurance system. Inevitably there would be developed a spirit of team work, in itself of incalculable value. The opportunity for conference among members of the corps and for the interchange of experience and opinion, which is regarded as so necessary in all lines of service, would be afforded. Progress toward standardization of all practices would be possible.

c. In Completeness and Accuracy of Statistics.

The value of the statistics of disability, which have been so generally urged as an important argument in favor of health insurance laws, would be greatly increased if the records were made by trained medical men organized into a corps. In fact, the question may well be raised whether, except for the increase in number, the reports of disability furnished by medical officers employed by local carriers, would be more valuable than the statistics now available. According to the recent report of a committee of the vital statistics section of the American Public Health Association[25] there was "no plausible

(25). U. S. Public Health Service Public Health Reports. Sept. 22, 1916, p. 2539. The report said "While completeness of records of death is desirable, it is of no more importance than the accuracy of the causes themselves as stated on the death certificates. The primary necessity for reliable and adequate statement of cause of death is obvious. The high percentage of inaccuracy in certificates of death is well known to registrars, to life insurance companies, and to pathologists, who can compare clinical diagnosis with the demonstrated cause of death at the autopsy. If the 189 titles of the International List are studied in the light of present day knowledge of clinical and pathological experience it will appear that there is no plausible guarantee of accuracy in at least 41 per cent. of the certificates as now presented to the registrar of records of the New York City Health Department. In this 41 per cent. we find 2,875 deaths in 1914 attributed to causes that can be accepted as reliable only after autopsy and 27,995 which are capable of verification by exact observations as by chemical, bacteriological, and biological tests before death, but failing such specific proof, represent no reliable statement of death without autopsy."

guarantee of accuracy in at least 41 per cent of the (death) certificates as now presented to the registrar of records of the New York City Health Department." If, on the other hand, the reports of disability were made under the supervision of a central authority and by such a corps of officers as has been suggested, there is every reason to believe that they will be more uniform, more scientifically correct, more accurate and therefore of far greater value for epidemiological purposes than could be otherwise possible. The reports would be subjected to continual epidemiological analysis not only by the local medical officers but also by the district and state medical directors.

d. In Extension of Laboratory Facilities.

The diagnostic facilities afforded in laboratories maintained by state health departments would be greatly extended, not only by a wider use of existing laboratories but by calling into existence more laboratories for this purpose. The advantages of X-ray, chemical, bacteriological, and biological methods of diagnosis would be rendered available for all persons, instead of for the comparatively few who now obtain this service from public or private agencies.

e. In Making Free Choice of Physicians More Practicable.

With a corps of medical officers to sign disability certificates and to supervise the medical service, the medical and surgical treatment provided for beneficiaries could safely be left to the physician of the patient's choice, and payment made on a capitation basis regardless of whether the patient was sick or well, after the manner of the English national insurance act. This method of selection and payment of physician for the medical and surgical relief would offer every incentive to them to keep their patients well and to endeavor to please by rendering their most efficient service. In other words, such a method would place a premium upon health, so far as the panel physician is concerned.

f. In the Directly Preventive Character of the Work of Medical Officers.

It is plain that the activities of these medical officers would be of a distinctly preventive character.

In order to certify as to disability, the medical officers would have to enter the home of every sick insured person. This would mean that the character of the medical service rendered by panel physicians

would be subjected to intelligent survey by independent state officials. It would permit a trained health officer clothed with governmental authority to see the actual conditions under which all insured persons and their families live, and would mean that every patient would have a double service—clinical and preventive. The personal connection between the home and the health officers, which is so greatly desired in public health administration, would be possible. The value of such a service in the prevention of disease can hardly be overestimated.

For prompt and efficient dealing with infectious and contagious diseases, the presence of a medical officer who is conversant with local conditions, trained in the methods of control and possessing the authority to act, is generally conceded to be the first essential in the eradication of these diseases. It would mean that, equipped with prompt, complete and accurate reports of morbidity based on the diagnosis of a skilled medical officer, action could be taken early enough to limit the number of foci to the minimum, and thus greatly facilitate the work of restricting the spread of disease. The health agency would thus be placed on the job without loss of time and be in the closest possible touch with the situation. Since the medical officer would be clothed with the authority of the state he would have the power to put remedial measures into effect, not simply to recommend what measures ought to be taken. In other words, the much desired all time local health officer would be provided in every locality where there are wage earners.

As a representative of the state, the medical officer would be in a more independent position to fix the responsibility for disease causing conditions than he could be if appointed by the local carriers. This implies not merely that he would be unbiased because of his specialized training and his scientific point of view, but that he would represent primarily the interests of the public rather than the interests of any one party involved. "Without fear or favor" he could place the responsibility for conditions where they belong. For example, the presence of harmful dusts or fumes in a manufacturing process, or the lack of screens in the home, or the presence of a polluted water supply, would be fixed as the responsibility of the employer, the employe, the owner, or the local municipality, as the case might be. His work would not be regarded as the efforts of a radical reformer, or the welfare activities of an employer. He would not be subjected to such conditions as may impel a company doctor to be more lenient in signing sick certificates in times of labor scarcity, or to be more strict in times of labor abundance, or as may cause a benefit society physician to be complaisant in signing certificates in order to increase the amount of money relief in deserving cases. Medical inadvisability to work, rather than inability to work, would more generally be the basis

of sick certificates, when the referee is subject to state control than if he were employed by the carrier.[26] This would allow time for complete recovery without the charge of malingering.

3. CLOSE CORRELATION OF HEALTH INSURANCE WITH STATE HEALTH AGENCIES.

From the foregoing considerations it seems clear that a close correlation of the health insurance system with state, municipal, and local health agencies would be effected by the plan outlined, and that the disease preventing efficiency of both would be greatly increased. The medical referees would be selected, appointed, and supervised by the state. The state and district health departments would also be represented in the administration of the health insurance system.

The organized, centrally supervised corps of state medical referees would be a part of the health administration of the state. They would be local health officers with a distinct and definite field for work. In large centers, a division of the labor of the municipal health officers and the health insurance medical officers could be made so as to avoid conflict of duties, while in small industrial towns, where there are no municipal health officers, or only part time officers, the health insurance medical officers could be the local health officers. The possible advantages from such an arrangement at once suggest themselves. It is a well-known fact that in many industrial cities and towns the sections occupied by wage earners, especially the poorly paid, are most neglected from the standpoint of public health. It is with the conditions in these sections that the medical officers detailed to the insurance funds would be especially concerned. Health conditions in factories, mills, mines, and stores would be an important part of their special field of work. In short, that part of the population which now stands in the greatest need of the most careful, scientific, and close personal health administration would be afforded that administration. The contribution to preventive medicine and to public health work which the intimate knowledge gained daily by the visits of trained sanitarians into the homes of wage earners could afford, would be almost incalculable. For only by such methods can the tangled mass of disease causing conditions—such as housing, congestion, insanitary conveniences, diet, and the like—be untangled and proper importance in the causation of ill health be definitely assigned

(26). Rubinow, loc. cit. p. 1013. "The preventive effect of health insurance can not fully be realzed until it is understood that not merely physcal disability but medical inadvisability, certified by a responsible medical officer, and subject to rule of reason and review, should be the basis of the sick benefit."

to each. In fact, this arrangement would go a long way in attaining one of the ideals for which all health agencies are striving—the presence of a whole-time health officer in every locality.

CONCLUSIONS.

The prevention of disease has come to be thoroughly recognized as essentially a public function. No other interpretation can be placed upon health legislation, upon the trend of the development of public health administration, and upon the character of the modern weapons against disease. If a state health insurance measure, designed to affect a very large proportion of the public, undertakes to be preventive at all, it should expect of the state that the state's own machinery for exercising this function be utilized to its fullest extent, in direct and close co-ordination with the health insurance machinery for distributing the cost of sickness. The question is of the method by which the public health agencies can serve the health insurance system and yet be working in their legitimate field of service—the care and improvement of the public health. It is believed that the plan of coordination which has been reviewed in the foregoing pages constitutes a method which is at once feasible and of great advantage, not only to the work of preventing disease, but to the popularity and efficiency of the health insurance system itself.

CHAIRMAN PATTERSON: I am sure we have already gained much knowledge from this very admirable paper of Dr. Warren, so ably presented by Dr. Schereschwesky. The importance of the physician in dealing with the subject of health insurance can not be overestimated or overstated, and I sincerely hope that every one present will express themselves upon this subject in the discussion. There is no man without the ranks of the medical profession who has done a finer piece of work, with his ear and his heart always closely attuned to the sorrow and suffering of those who must toil for their daily bread, than my good friend, Dr. John B. Andrews, Secretary of the American Association for Labor Legislation, who will open the discussion on this paper. It is my privilege and pleasure to present to you to-day Dr. Andrews.

HEALTH INSURANCE LEGISLATION.

By DR. JOHN B. ANDREWS, Secretary, American Association for Labor Legislation, New York City.

Dr. JOHN B. ANDREWS. Mr. Chairman, I was very much impressed by the figures given by the Chairman this morning with reference to the increasing knowledge concerning industrial accidents

in the State of Pennsylvania and the organized efforts which are being made to prevent as many as possible of those accidents. As I recall his statement it was to the effect that the introduction of the Workmen's Compensation System in Pennsylvania brought out the fact that whereas you had one of the best reporting systems, you got only, approximately, 60,000 accidents reported in a year; that after the Workmen's Compensation law went into effect this jumped to over 200,000. The fatal accidents apparently total about 2,500 yearly in Pennsylvania. Now the Pennsylvania Law for Workmen's Compensation has been in effect less than a year. In one of the states that I am familiar with they have had Workmen's Compensation in effect a little over five years. During that period, with the system of accident prevention which you are putting into effect here, they have reduced fatal accidents about sixty-one per cent. Therefore, there is good reason to hope that at the end of five years you will be preventing yearly 1,525 deaths out of the present total of 2,500 each year.

I like to get these concrete facts, because it is encouraging to see what can be done, and as Dr. Schereschewsky has said, with reference to Dr. Warren's very able paper, similar arguments are being used in introducing the campaign for health insurance in this country. Health insurance is an effort to do for the laboring man's sickness what is already being done, in a measure, by Workmen's Compensation for the industrial accident problem. Dr. Warren has so concisely and ably outlined the general provisions of the plan which is being put forth for discussion and criticism in this country that it is unnecessary for me to go much into detail. To ninety-nine per cent of Dr. Warren's paper I take no exception whatever. Dr. Warren has done magnificient work as a physician studying the economic problem, as well as the medical problem. But I do not want you to get the impression from the concluding part of his paper, which Dr. Schereschewsky did not have time to read entirely, that the things which are there urged are not cared for in the bill which has been circulated for criticism. That I want to make plain, and I shall, therefore take up four or five of the points which seem to me to need elaboration.

First, certain shortcomings of health insurance bills which were introduced in the legislatures of 1916 have been mentioned. Let me explain: Commissioner Jackson this morning told you that one of the biggest things that he is concerned with is the arousing of the public from a certain lethargy with reference to preventable conditions that are dangerous, in industry. Now, some of us devote our entire time to the legislative method of getting certain things done where legislation is "indicated," as the physician would say. We have to use our own judgment about tactics. Bills were introduced in 1916 in three states before certain general provisions were worked

out in detail; the essential skeleton was there. But particularly and purposely the detailed medical features were not put in the bill. That caused a few medical men to criticize those bills as introduced at that time. But the bills were introduced then partly for the purpose of getting busy men, whether they were physicians or employers or representatives of labor, to give the serious consideration to this complex proposition which its importance merits. And the move was very successful. If we can justify the means by the results, then we are satisfied and can endure some criticism. The medical provisions were not worked out in detail and put into these first introduced bills because the committee of the Association for Labor Legislation did not wish to put in the detailed matters covering medical service until the medical men themselves could make up their minds as to how they thought such provisions should be framed. Perhaps all will agree that that was commendable on the part of the committee. Here, too, the end has justified the means. Within the past eight months medical societies have formulated their opinions. They have had these matters definitely before them for consideration, and it is only since yesterday that it is possible to put into pamphlet form, in fifteen printed pages, the detail, much of which was agreed upon, so far as our committee are concerned, months ago, but was not yet passed upon by any of the important medical societies. That, I hope, will make that point clear.

The second point is that criticism has been made of the health insurance bill because the financial pressure is diffused. It is granted that the financial pressure is diffused under health insurance, whereas under workmen's compensation the entire financial cost should be borne by the employer. Under insurance against sickness the worker should bear his proper percentage of the cost, because his personal habits, his living conditions at home, outside of the establishment, for work are an important factor; also the state or community should bear a part of the burden, because the community is directly responsible for a considerable amount of ill health. A poor water supply, for example, may lead to an epidemic of typhoid fever. The financial pressure is divided because of the sharing of the responsibility for sickness among those three groups. Do you not see the justice of that? If we are going to use the method of economic pressure for the preventing of sickness for which different groups of people are responsible, should we put all of the pressure upon the employer and not put any pressure upon the laborer? And should we not put economic pressure upon the community when the community is clearly resposible for a portion of that sickness? The pressure is diffused and we justify it, and we believe that the same economic pressure which works effectively with employers under workmen's compensation, can be made to work effectively under health insurance

with workers and with those responsible for public health. The taxpayers even can be made to sit up and take notice when they realize the amount which they are paying for preventable sickness.

I wish I could take up in detail the point with reference to occupational disease compensation—a form of relief which should have been granted long ago. It is a most interesting subject. I have perhaps written and talked more than almost any other young fellow in this country about occupational disease compensation, and I want to confess to you that as a result of years of study of this subject I have come definitely to the conclusion that the effective introduction of compensation for occupational disease, in any state, is going to be fraught with very great difficulties. Can you gentlemen go before the Workmen's Compensation Commission and say positively that a man suffering with lead poisoning, for example, is suffering from lead poisoning contracted in his present employment? Can you, if he is a painter, say that he contracted lead poisoning in the employment of this employer who hired him day before yesterday, if he has been working with a dozen employers during the past twelve months? Can you prove that certain other occupational ailments not so definite as lead poisoning are due solely to the nature of the employment? It has been estimated that the extension of workmen's compensation to cover occupational diseases will not increase present compensation payments to workmen more than one per cent.

Now as to financial pressure under occupational disease compensation. Under two of our Workmen's Compensation Laws in this country, occupational diseases have been included as "personal injuries," and the insurance rates, I understand, have not been raised for the employers. The economic pressure in the case of occupational diseases has not come in such a definite, direct way that it is effective. Under health insurance in the plan as outlined, forty per cent of the whole cost of all sickness is to be paid by the employer. He can not escape that so easily. It is not desirable that he should escape any of it in any way. And at the very frequent intervals when he writes his check for the sickness insurance it is brought to his attention.

I don't know that I make it clear, but I want you to see that with occupational disease compensation, where you make up a definite list of diseases as in the English experience, it is difficult to list more than two dozen, and most of them are occupational diseases which do not occur more than a few times a year. Occupational disease compensation so far as the sickness problem of the worker is concerned, is not so much as a one per cent proposition compared with your workmen's compensation for accidents; health insurance

is more than a one hundred per cent proposition as compared with accident compensation. That is one reason why we feel that health insurance is decidedly worth while. It is a big job but it is worth all of our effort.

Of course it is true, as Dr. Warren states, that other forms of social insurance are needed. There is no doubt about that. Insurance to take care of old age and unemployment is needed. Health insurance can easily be extended to take care of disability throughout the period of sickness disability, if there are enough of you who favor that plan. Health insurance need not stop at the end of twenty-six weeks in a year. No one of us on the social insurance committee of the Association will object to that when there are enough of you medical men, employers, and representatives of labor to make it directly feasible in legislation. We are for it. It is just a question as to whether you are going to be practical to the extent of taking one step at a time, or whether you want to try to put the whole social insurance program at one session of your legislature. Most countries have taken one step at a time, and I presume in America we will do the same.

Now there is another question, and that is the separation of function between the two groups of physicians under health insurance. That is already cared for in the standard bill and it is, of course, very important. I agree with all Dr. Schereschewsky has said with reference to the dangers of not having the medical officer system. The medical officers alone should grant the certificates of disability before cash benefits are paid. It is dangerous to have the same physician treat a sick patient and also write out the certificates of disability. You can see the embarrassment to which the physician as well as the fund is put to, under those circumstances. That is avoided in the bill.

There is another separation of function suggested by Dr. Schereschewsky, as a result, I think he said, of Dr. Frankel's remarks at the Cincinnati meeting of the American Public Health Association. I am glad he has mentioned Dr. Frankel of the Metropolitan Life Insurance Company in this connection so as to bring it up, otherwise I might have forgotten it. This second separation of function proposed by private insurance interests is to separate the carrier for the cash benefit from the system of medical care. It is the only way which opens up to the private insurance companies of the country an opportunity to handle the cash business which is attractive to them. And knowing that they can not handle the medical care they suggest this division. Now we would be departing from the best experience of other countries if we were to do that sort of thing with reference to social health insurance. It immediately

opens up many opportunities for friction. Not only once a month, not only once a week or day, but hourly, it would create problems which naturally accompany profit making in private insurance, which need not enter into the consideration of public health insurance. If instead, we have local mutual funds furnishing insurance at cost, with employers and employes contributing equally and having an equal voice in the management, we can save to the taxpayers huge sums; millions of dollars to the employers of the country; and save millions of dollars otherwise taken from the low wages of the workers. And we can work out a much more efficient operation of this economic pressure upon the three interests that are concerned than we can by bringing in a discordant private insurance element. That is one reason why we are in complete disagreement with certain representatives of insurance interests. Economy must be thought of very carefully in this health insurance proposition. It is going to be expensive. You can not do such a big job without paying for it. Let us not make it unduly expensive when the experience of the world teaches us how it can be done economically and effectively through local mutual funds.

Now, finally, this plan that we are proposing does connect up with the public health service. Of course it would be a serious thing, in fact unthinkable, to overthrow the health department machinery which has been developed. It is not difficult to utilize the existing state machinery in connection with health insurance.

CHAIRMAN PATTERSON: It has been said that when the Compensation Law was enacted and placed upon the statute books of this Commonwealth it was done without any consultation with—and some people even believed without consideration of the rights of,—the medical profession, and therefore, it seems to me, to be peculiarly fitting at this time to have this subject of health insurance freely and fully discussed by those who, after all, have a very vital interest in whether or not it is to become a law. When the health insurance law was passed and placed upon the statute books of the English Government the British Medical Association woke up to what they believed was absolute ruin, not only to the traditions of that association, but to the very livelihood of every man who was a member; and so next year, when our Legislature meets, within this very hall, when this bill for health insurance in this Commonwealth is introduced for its consideration, I believe that the medical profession of this Commonwealth should be prepared, forewarned, forearmed, so that the committees of its State Medical Society may come here to Harrisburg and be represented at the hearings which will undoubtedly be held upon this bill, and that those of you here to-day should talk, tell the other fellow what you believe, and have this subject freely discussed, so that we may come to the next Legislature, not as a divided body with a thousand and one opinions, but present to the Legislature a solid front of medical opinion, no matter what school the man may practice in, and insure to the medical profession of this Commonwealth an adequate representation upon whatever boards may be appointed to administer this act.

The subject is open for general discussion, and I sincerely hope that every man present will not hesitate to get up and express just exactly how he believes the law of health insurance is going to affect him and affect the fellow members of his profession. Gentlemen, the subject is one of vital importance to the profession. The Legislature is surely entitled to the view of this representative body of physicians.

DR. ALBERT BOWEN, Cluett, Peabody & Co., Inc., Rochester, New York: Mr. Chairman, although I am not from the State of Pennsylvania, I have been studying this subject for a considerable time and am very much interested in it. There are certain problems which come to one's mind as one studies the proposition and these are such as affect directly our profession. As all of you can readily see, the medical profession is the one which will be depended upon to carry out the service of this act and there are many things that we should consider. For instance, in section three, compulsory insurance; "Every person employed in the state at manual labor under any form of contract, and every other employe whose remuneration does not exceed one hundred dollars a month, shall be insured," &c. If you stop to think, that includes ninety per cent. of the population of your State. That means about ninety per cent. of your practice, persons whom you are now serving will come under health insurance. It includes school teachers and every person earning less than $1,200 a year. The problem comes up, for instance, in relation to school teachers, or any one single person earning $1,200 a year; are they not fully able to pay for medical services at the present charges?

If you also stop to figure out what the rates may be under this act we arrive at some interesting figures. This is quite rough figuring for New York State, where about eight or nine million people would come under the law for medical benefits. The law provides that not only the wage earner, but also his wife and children shall receive free medical service under the insurance act. It has also been estimated that about four per cent. of the wages are to be the limit of the tax for carrying out this insurance. That would mean that four dollars per hundred is charged. The average annual wage of workers throughout the country runs somewhere around $600. More than seventy-five per cent. of all wage earners receive less than $800 a year, and including women workers there are a large number who receive under $500, so that, I think, for figuring we can figure on $500 a year. About a third of the population are wage earning people, which would be in New York State about three million workers, on which the tax would amount, at four per cent., to sixty million dollars. There are 15,000 doctors in New York State, it is estimated; that would mean that the 15,000 would get one-third of the workers a year and one-third of sixty million dollars; twenty million dollars to be divided among the doctors. As I roughly figure, each doctor would care for six hundred persons a year, and would receive as a division, at that ratio, about $1,300 a year for caring for them.

That is just a suggestion. I am strong for health insurance, but there are a number of problems affecting the medical profession, particularly in the matter of remuneration. In England, where it is on the per capita system, the medical profession has that distinct benefit, although they get only $1.67 per person. I simply present these suggestions which you must consider; and on which you must have intelligent opinions when this matter is brought up for consideration by the Legislature.

CHAIRMAN PATTERSON: The subject is open for further discussion.

If there is no further discussion we will take up the next paper on the program which is Medical Supervision of Workmen and its Relation to the Prevention of Industrial Accidents. This is certainly a subject that every doctor has a very material

interest in and it needs no words of mine to emphasize its importance. Anything which tends to decrease the present loss of industrial life and health in our Commonwealth demands the careful attention of every one, so it is my privilege to introduce to you Dr. Loyal A. Shoudy, Chief Surgeon of the Bethlehem Steel Company, at South Bethlehem, who will speak upon this subject.

MEDICAL SUPERVISION OF WORKMEN AND ITS RELATION TO THE PREVENTION OF INDUSTRIAL ACCIDENTS.

By DR. LOYAL A. SHOUDY, Bethlehem Steel Co., South Bethlehem, Pa.

Mr. Chairman and members of the Conference, when asked to present a paper at this meeting on The Relation of Medical Supervision of the Workman to Industrial Accidents the thought came to me that the relation was so direct that it is self-apparent.

In our school days we were taught, "Reading, Writing, and Arithmetic" and in the arithmetic we learned the laws of proportion, the laws of cause and effect. As cause is, so is the effect. Increase the cause, increase the effect, in direct relation; decrease the same cause, and the effect is decreased proportionately.

Now gentlemen this same law of proportion, of cause and effect, applies to this question of medical supervision and industrial accidents. And the degree to which you apply medical supervision will affect the accidents in the direct ratio of cause and effect, accordingly as to how thoroughly you apply it.

You who are not men of medicine say, "That sounds well, but let him prove it." That's what I want to do, to try to show you that medical supervision is not only a human standard but one that from the standpoint of dollars and cents must be reckoned with in any industry.

In order to reach any comparison between the results of medical supervision and industrial accidents, and be fair to the medical man, you must give him breadth enough to produce results.

Medical supervision of any industry does not mean the simple maintaining of a plant dispensary—bandaging up cuts and bruises. It means more. It means the balancing of the industry; and the physician should be the master weighman of all human material used in the plant.

The old days of "use a man as long as he lasts and then kick him on" are past. The question now is to use labor in such a way that industry will receive the fullest return, and the man continue on the job until called by higher hands than carelessness, poor hygiene and useless accidents.

Use the men, train them to your industry and make the life in your plant such that they will want to remain; ond in their old age give them the easy jobs until pension time arrives.

Under medical supervision let us include: (1) Plant sanitation, ventilation and hygiene; (2) Physical examination with employment; (3) Plant dispensary; (4) First aid and health committees; (5) Hospital; (6) Visiting nurse and home conditions.

The relation of plant sanitation, ventilation and hygiene to industrial accidents is a relation of direct proportion. True, in our State at the present time, we do not classify industrial diseases as accidents, but we will. I ask you is the day far distant when lead poisoning will be compensated as readily as a fractured femur? And your relation will then be direct. Prevent all this disease, prevent accidents. How? By sanitation, by hygiene, by directions how to live, by medical supervision.

Do you realize that the cost to the nation of preventable disease is appalling? Do you know that the average worker loses about 9 days of each year by sickness alone? Think of it, 30,000,000 workers lose say $2 per day plus $1 medical attention, and over $800,000,000 are lost. "This does not take into consideration the effects of the sickness on the man's vigor and efficiency, or upon the welfare of his family, or upon the efficiency of the industry in which he is engaged." Preventable disease! Preventable accidents! These figures do not afford a true idea of the problem of sickness among wageworkers, they point out the loss in dollars and cents but to be properly felt you must put them in terms of human suffering, not only to the man but to the family and the generation to follow.

The human scrap heap, gentlemen, can not be melted over and turned out in a new form. The human scrap heap goes as the by-product of the industry and a by-product which no one has ever yet succeeded in using or making over.

Have not these men who give their day's toil to the industry some call on that industry to give them proper working conditions? Can industry sit on the judgment seat and have pass in review the countless cripples, men who have sacrificed hands, arms, legs, and eyes and smile and keep on adding to the already long procession?

Medical supervision of plant sanitation, ventilation, and hygiene should look after: (1) The occupational hazards of disease; (2) Irregularity of employment; (3) Unhealthful working conditions."

"Morbid results of occupational activity tracable to specific causes and labor conditions, and followed by more or less extended incapacity for work" constitutes industrial disease—industrial accident.

Under occupational hazards come workers in harmful substances, and workers under harmful conditions.

There is scarcely any line of work in modern manufacture which is free from the dangers of industrial poisoning. If the shop is filled with fumes or various gasses, if the air is laden with particles of dust, etc., is it right that men should be compelled to work in these places and cause injury to their health? If the craneman, perched above and forced to work in a shop where the rising smoke and fumes fill his cage and stifle him, starts his crane too soon and injures some fellow below, is the cause of the accident? Can a man give the best there is in him working under these conditions? If a man has breathed fumes and dust for six hours is it any wonder that some accident befalls him? How will you prevent them? By proper supervision.

The relation is direct, medical supervision will cut down your list of these poisons. It will remove the worker at the first signs of danger. It will place all known methods of protection around the worker.

A short time ago in one of our shops, some new work was started and in a short time the men had a peculiar rash on their arms, hands, and faces. It appeared to such an extent that one morning they all became scared and struck. The superintendent called me on the phone and asked me to come down. I went. I found the men were working with antimony powder. No one had made any particular attempt to control the dust. No one had explained to the men that antimony is a skin irritant. No one knew that antimony was harmful. But it is. The cause, antimony dust; the effect, impaired health; men with pimples and boils, strike, shop stopped. The cure—medical supervision, the cause; the effect, no boils and no pimples, the men back on the job and have not lost a day since. Is this not an example of direct relation? And that superintendent told me that what the doctor had done, meant more to his shop in dollars and cents than he could count, and in such a way that it could not be measured.

Now as to workers under harmful conditions—heat, cold, bad ventilation, eye strain, muscle strain, nerve strain, fatigue—these, gentlemen, all bear directly on accidents. To tell you how, is but to relate of a worker in the open-hearth who overheated, passes out into the cold of a winter's day and develops pneumonia. Now if he survives, he is anxious to return, he does so, and too soon. His heart and lungs are not in a condition to withstand the calls of the body, he is fatigued, falls, and strikes his head on the floor or some other object—result, fractured skull; an industrial accident, gentlemen, and in direct relation to medical supervision because if your medical supervision is complete such a man would never return to work after his sickness without a permit from your plant physician. An industrial accident, gentlemen, because the men should receive

instruction on how to care for themselves,to protect the human machine, so that they would not expose thmselves so soon after being overheated. Show them by a practical way; heat an iron bar to red heat and thrust it immediately into cold water. Tell them that the changes in their bodies when subjected to heat then cold are of a similar nature.

You ask, "Why should industry teach all these things?" Because, if for no other reason, it is to the advantage of the industry in dollars and cents. It is the old story of an ounce of prevention being worth a pound of cure. If you stop these things before they happen they cost less and are of untold value to the man.

You tell me that sick babies, that factory girls, and women workers with anemia, chronic indigestion, etc., are not industrial accidents. But gentlemen they are. And these anemic girls, these sick babies, these dyspeptic women are not to be put right by medicine alone. The hours they work, the conditions they work under, their shop sanitation, and ventilation are often at fault.

Now fatigue, men, is a headliner in the cause of accidents; and the causes of fatigue are many—long hours, piece work, poor ventilation, and the humdrum of machines.

Excessive work, prolonged work, fast work, cause accumulation of body waste products followed by exhausted and poisoned body cells, then lack of physiological function, then fatigue and accident.

Now for this, medical supervision can see to it that in the nerve racking parts of the shop the hours are not such as to endanger the men employed. They can see to it that boys are not allowed to do a man's work. They can see that on work in pairs a heavy and a light man are not put as one. Foremen often want to push the worker on, or hold him to an extra shift, failing to realize that there is a limit to a man's working capacity, that the human machine needs rest—result, accidents.

Granted that many of these evils are bound to exist, then the relation of medical supervision must be to the end that the best adjustment possible is obtained. In places where dust and fumes are necessarily present, medical supervision will provide proper coverings for the mouth, nose etc., preventing where possible the accident.

A study of the gathered statistics on the effects of dust and fumes is convincing that if you will but provide the proper protection, you will lessen the accident, the loss of life, in this field. The cause, dust, is to the effect tuberculosis, as medical supervision, is to proper protection, which equals better work, longer life, more production, happiness, dollars and cents.

I have but briefly gone over sanitation and hygiene to try to prove to you that it pays to have properly ventilated shops and proper

sanitation in the industries. And the more complete the scope of the work, the better will be the conditions for the worker and the less the numbers of accidents in proportion.

This brings up employment, one of the greatest questions now before the men of industry and one which bears directly on the health and accidents of the plant. The hiring and firing of men is expensive business in more ways than one, and bad alike for the industry and the worker.

Industry should investigate the turnover of the plant, count the cost, and find out that it really costs as much or more under the present system, to fire as to hire a man. Find out if it is not better business to fit the man to the job than to fit the job to the man.

Employment and medical supervision, in the form of a physical examination should go hand in hand.

You ask me the relation of employment to accidents, and employment to medical supervision? Under the present system as followed by most of the industries to-day, a man applies for a job to the employment department and, if he can answer a few questions about previous experience etc., he is hired, placed in the shop or elsewhere and what is the result? He may prove physically fit and survive and he may not. In some cases, true, where the force is greater, this same man may be one who was discharged but the previous day from another department and for good reason.

Suppose this man, applicant for a job, has a slight enlargement of the hernial rings and is placed in a department where heavy lifting is required. The result—accident, hernia may be strangulated. Would medical supervision, physical examination, have prevented this?

Again the applicant applies is given the "once over" at the employment bureau and passed on to the shops. Perhaps as a craneman. No one asked concerning the man's eyesight. No one knew that his vision was far below normal. He may not have realized it himself. He goes on the job, through his poor vision the crane goes too far or not far enough and the men below are caught between weights and crushed. Bad eyesight—accident, bad employment. A good system of medical supervision, of physical examination, would prevent this. Cranemen should be held to a high standard of vision.

Again a man with cardiac disease is the applicant; he is looked over, answers the usual questions, and is passed on to the shop for a job. Mr. so-and-so needs men. But gentlemen if he would stop and think, he needs efficient men and men suited to the job. Your cardiac applicant goes on the job; in his desire to make good, overexerts himself, falls and catches his arm in the machine—result, accident. Would proper medical examination have averted this?

Another instance, a new man applies for a job, he is looked over and passed along. No note or difference is made if this man has just arrived from some foreign port or not. He is given a job and placed along side of men who have been employed in the plant for years. Is it fair? Would you men who do the hiring and firing care to submit your wife and children to such dangers? The applicant or applicants have been in this country perhaps three days, clothes unchanged, and I doubt if they have had a bath since they left the "old country." You take them into the plant—result—you introduce some form of contagion. It may be slight or it may be great, from scabies to smallpox.

The next man who applies may be one of those unfortunate individuals who does not possess all those mental faculties which go to make a man well balanced. As the boys say, "he's a little off." But he passes with the crowd, is hired, and the first you know is, that there is a bad accident at such and such a shop, Jim Gorge has fallen into a pit. One workman reports that he noticed," he acted kinda funny before he fell." But he fell gentlemen, and the accident stands. Would medical supervision have helped this? Yes, to one trained in looking over men; to the mind who appreciates the mental bearing of men. This class of labor should never reach the dangerous places in your shops. You ask "what will you do with them?" It's pitiful I know to see an apparently strong man physically but with a mind too weak to be allowed on the job. But remember "Safety First" men, and try to place him where he will or can do no harm to himself or his fellow worker.

There are instances. All this kind of trouble, accidents, I believe, gentlemen, can be averted by the proper medical supervision, physical examination of the men employed. It has a direct relation and bearing on the prevention of industrial accidents. I do not claim that medical supervision will stop all plant accidents. But it will help you to adjust the internal workings of labor, help to balance it and I feel sure to such a degree, that the accidents will be greatly lessened and the ones due to the causes mentioned, almost, if not entirely, eradicated.

Medical examination in its relation to employment, will then: (1) Prevent new employes from bringing contagious diseases into the factory; (2) Keep out grossly defective men, those whose defects make them peculiarly susceptible to accidents; (4) Point out defects to the new man and help him to remedy the same, to increase his efficiency; and (5) lastly fit the man to the job. Give him the benefit of your findings at physical examination, educate him as to the value of health and the care of his body.

Your men must be in a state of mind, of health, to permit them to think safely. Clearheadedness can not come from one in an un-

healthy condition. Men can not live eight and ten in a room and be in good physical condition for hard work. Many accidents are due to physical disabilities of workers which render them less alert. Now if a man is absent from work both he and the employer lose. It is to the interest of the employer that all men be physically able to be at their work every day.

And industry asks, "Why should I worry about the man after he leaves the gate?" Let industry go on asking and asking, let her close her eyes to the needs of the men until the day comes when the supply of labor, of men, is exhausted and maybe then she will take time to see that a little expenditure here or there would have changed things at one stage of the game.

Gentlemen, I believe that the time is passing when all the profits of industry are to be turned in one channel. Industry sees that she must care for the man, for the labor, that makes profits possible. Why should she not help in the schools and civic stations? Why not provide amusements of a good moral tone? Why not look a little to the sanitation of the local town? Why not look after the housing conditions of the men? I do not think that you will deny me that this all bears on industrial accidents. Should it not then be in a measure supervised? I do not advocate that every industry should go out and tell all the men how to run their homes, from the strict family side. But I do think that we should see to it that proper laws of hygiene are observed. And this, gentlemen, will not always find labor at fault. It may be the man who owns the houses, etc.

Either from ignorance or because of the expense the workman is slow to call the doctor: result—a minor illness develops into one more serious because of the lack of care; illness—accident. It is an accident that the man is ill. Will medical supervision help this?

I do not think that anyone will question the right of the plant dispensary and first aid work to be under medical supervision. The relation of the dispensary to accidents is to care for any accident that has occurred and impress upon the man to be careful that such does not occur the second time; to protect small wounds from infection; to keep the small accidents small. Your first aid and health committees should teach the men to be careful, and by preaching and teaching the men to think, and see, prevent many accidents that are all due to, "I didn't think."

Every industry should have its own hospital or satisfactory arrangements with a good hospital near at hand. Do you ask me the relation of the hospital to industrial accidents? The relation may be that of inverse proportion, the care of the injured man. Is not industry interested in having the man back on the job in the quickest possible time? Has not labor the right to know that proper medical and surgical attention is available when needed? You must have

physicians and surgeons fitted to the job equally true as you fit the machinist to his machine. You can not prevent all sickness, but why not to a degree do as Mr. Roosevelt says "Chinafy America"—Chinafy the industries and pay the doctor to keep the people—labor—well? Prevent accidents, gentlemen, before they happen. You can not prevent all sickness but industry should provide good care for all the sick; give the man a chance to come back to his job fit to do the work required. 'Twas an accident that he took sick; by reason of lack of proper bathing or washing facilities, poor ventilation, forced exposure etc.

Health education will prevent many accidents. "Industry is living at a fast pace, efficiency and high class production are at a premium. Neglect, not ignorance, is the issue? It's time for industry to 'Stop, look and listen'—and get busy." Physical examination and physical education must be a part of the future employment system. Industry employs a staff of men to care for the money interests; employs men to care for the machinery; to increase the output; to find use for the by-product. Why not employ men to care for the most important part of the industry, the workman, the labor?

Provide the cure, physicians and hospitals; prevent or diminish the cause by the co-operation of medical supervision.

The visiting nurse's relation to industrial accidents is along the same line as the physician's; she visits the homes teaches cleanliness, care of health and food, looks after the babies, provides proper milk, calls the doctor and does a million and one things too small to enumerate but large when felt at the opportune time. She reports a sick child with the father up all night and forced to work all day. Is he fit? If he is worn out during the day and is injured—an accident. Does medical supervision bear any relation to this type of accident.

Summing up medical supervision of the workman: (1) Proper ventilation, sanitation and hygiene; (2) Physical examination and employment; (3) Dispensary, first aid, and health education; (4) Hospital and visiting nurse—all bear a direct relation to the prevention of industrial accidents.

I have tried to point out the value of medical supervision and its direct relation to the prevention of accidents, I trust that I have not overdrawn. If so, I assure you that it is because of my desire to point out the possibilities of medical supervision in the hope that a happy medium may some day be reached and labor and industry appreciate the value of the full-time physician to their cause. Industry should not do all, but she should point out the way and teach labor to help herself.

And borrowing from Dr. Geier's recent paper, "Your medical department must be your human relations department. Your work-

man's health is his most vital possession, you must help him conserve it." Your medical supervision, to bear direct relation to the prevention of industrial accidents must be developed along lines of efficiency and sympathy. "Your all day dispensary is a great melting pot for human experience. Here the virtues as well as the weaknesses of man are reflected. The right man in charge becomes both priest and physician confessor and advisor. A cheap doctor, like a cheap machine will produce a cheap result and no man will recognize that cheapness sooner than your workman."

If the employer, would but exercise the same good judgment regarding the physical welfare of his men as he is obliged to exercise regarding the upkeep of his machinery, those men would be a more efficient human agency, the world of which they are a part would be a more efficient world, and the nation of which they are a part would become a greater and a more powerful nation.

O! Industry, pause in your "hurry and scurry" of the busy day, and teach men how to live as well as how to make a living.

CHAIRMAN PATTERSON: We certainly are to be congratulated upon hearing Dr. Shoudy's very able interpretation of this very interesting subject. It seems to me that the physician can play his part in reducing one of the greatest economic wastes that we have in this country to-day, the tremendious loss to employer and employe due to the system of hiring and firing, at present a part of the majority of the industrial plants. And so too he can be a factor in the preventing of industrial accidents and occupational diseases by making physical examinations and physical classifications and fitting the man into that particular place in industry which his physical and mental attainments best suit him to occupy. The subject is one of vital importance, and I sincerely trust that every one will express his opinion upon it.

MR. C. B. AUEL: Mr. Chairman, Dr. Shoudy dwelt quite forcibly on the necessity for a physical examination of applicants for employment. I have been told, and if I am mistaken I should be glad to be corrected, that those who insure in the State Fund must not show discrimination in their choice of applicants. Would you kindly explain, if you can in a few words, if this is correct, what the State calls discrimination. For example, would an applicant showing a decided tendency to hernia, come under that class. Hernia seems to be the most prevalent weakness, as far as I know, at the present time.

CHAIRMAN PATTERSON: The State Fund has ruled that those who are insured by it shall not discriminate; that a man, or a woman, applying for employment in an industry must not be excluded from that employment merely on the grouuds of physical disability. The Workmen's Compensation Board has made the same ruling to govern self-insurers. There is the feeling, upon the part of those who toil, that certain manufacturers in the past, employers of labor, have discriminated in the selection of those who work for them. There is no question but that the State has a very keen interest in this problem, that if discrimination is to be carried out to the uttermost limit, the State will be obliged to make pro-

vision for the support of those who are unable to secure employment in industry. Hernia is, without question, the very commonest disease which affects American workmen, and I don't believe that I exaggerate when I say that ten per cent. of those males applying for employment in industry, will present either a hernia actually developed, or such weakening, due to malformation of the inguinal rings, as to make the occurrence of hernia a probability before the man has reached the age of forty-five years. I believe that a place can be found in industry, by means of physical classification, for every man, no matter what his physical disability may be. This has been clearly emphasized by the experience which we in Pennsylvania have gained, due to the ability of Mr. Lightner, the Director of our State Employment Bureau, in securing positions in industries for what he terms his handicaps, the men and women who, by reason of accident, or disease, are not one hundred per cent. perfect. It seems to me that one can gain knowledge on any subject by turning to the experience of the Ford Automobile Company. They have a rule in that plant that no man or woman shall be excluded from work simply because they have a physical defect, and in conversation here this week with Dean Marquis, the efficient head of the Sociological Department, which is closely related to their Employment Department, he stated that it had been their experience that many of the handicaps who had come and applied to the Ford plant for work and had been given work had proved in the particular positions to which they had been assigned, even more competent than those who were one hundred per cent. physically perfect. Did time permit I might emphasize a number of these cases, but one is sufficient. A man totally blind, without even light perception, applied for a position, was employed and was put at work assorting rivets into boxes That man, by his increased sense of touch, was able to do that work more efficiently, at less labor cost, than another man who was possessed of perfect sight. The State at large is keenly interested in this problem of those who, by reason of industrial accident and disease, are not perfect. Is the answer State Insurance? Health Insurance? Is the answer a Workmen's Compensation Law which shall prohibit discrimination? I do not know. But I do know that as long as time lasts we shall have with us those who are not physically perfect, and I do know that employers and the State at large must shoulder to shoulder and hand in hand, work out this intensely human problem.

The subject is open for further discussion; the chair, and, I know, the members, will be glad to hear from others upon the subject.

MR. RICHARD D. JONES, Supt. Compensation Dept., Royal Indemnity Co., New York City: Mr. Chairman, we hear every now and then, or have held before us, that bogy of discrimination. Upon the first enactment of compensation laws in these states we were told that employers would discriminate against married men, because the benefits to be given in case of death were greater than for single men. That, as we all know, has not been the case. But I would point out for the consideration of those who will have anything to do with the enactment of any amendment to the compensation law of this State, that the Dominion of New Zealand, which was one of the first of the English speaking countries to adopt a compensation law, in 1898, had this same problem before them and they have in recent years adopted an amendment which is known as an aged workers' and infirm workers' class. By the introduction of that class a worker who might be suffering from some infirmity which would render an accident to him, though minor in itself, more serious in results; or a worker who, by his age, was more liable to suffer permanent disability from slight injuries, might, by agreement with the employer, engage to accept a less sum in compensation per week during disability, and a lesser sum because of death or permanent disability. That has been adopted by some of the Australian states, and it has done away with what we thought

was going to be held as a discrimination against infirm or aged workers and has not rendered the worker himself in any way in a worse position than a man who has all his physical attributes. That suggestion is made because I have not heard it raised here in all the arguments I have heard made for the passage of this law.

DR. FRANKLIN F. ARNDT, Pennsylvania Coal Co., Scranton, Pa.: Mr. Chairman, the question of medical supervision, the subject of the paper that was read last, I believe is very important. The company that I represent has not been doing what we call medical supervision, especially, but I believe it is quite important. It will not apply to the Company I represent so much as it will, I fancy, to the Bethlehem Steel Company, because it is a mining company that I represent, so that the supervision of the conditions under which the men work could not be looked after so well as they could in the Bethlehem Steel Company. I believe, however, it is quite important, I believe that the examination of employes is very important. It is important to the employer and it is just as important to the men that they employ, the way I look at it. For example: The question has been raised here about hernia. There are a great many men, we find, that are working with hernia, without any protection whatever. We examine them, we find they have that condition, and we insist upon their wearing a truss or being operated upon. Then that examination is of importance to the man himself, for the reason that I believe the employers should examine their new employes. We have examined practically all our employes and I believe that is also just as important. A man may have certain diseases or disabilities that will render him unfit for all kinds of work; it has been stated here he can be given some kind of work and he probably can do it with safety to himself and to his employer, so that I believe it ought to be done. I found in talking to the representatives of some of the large corporations, on the trip down here, that they are not examining their employes. Now I believe that is important, I believe it is important to both sides. We have an example of an old man that is lying crippled in his house, we don't know that he will ever work again. The man was not expected to be working where he was. It took him, we are informed, about an hour to walk to his work in the morning. It was only a short distance for him to walk, but he was a man about 75 years of age. It wasn't safe for him to be in the mines where cars were running in different directions and where there were electric motors. He got injured by being struck by a motor. That man should have been employed somewhere else probably, although he really should have been pensioned. He was too old and too feeble to be employed where there was so much danger. Take an epileptic we had experience with—those men should not be allowed to work anywhere. The assistant foremen and superintendents have not waked up to the fact that they ought to exercise supervision over those men, but they ought to know that it is important to have them work only in certain places, just as well as it is to have medical supervision. We have a number of instances to show that.

Coming back to the question of hernia. It is surprising how many men are working at hard work, lifting heavy pieces of clay and rock, who have hernia and double hernia without any protection whatever.

The Company that I represent, Mr. Chairman, I think can not be said to discriminate against men that are suffering from physical disability. We are examining our employes, not with what might be supposed simply to be the purpose of discriminating, but to know what their physical condition is when we employ them. I am very glad that that question was raised, the question of the Law being amended so that a man with a physical disability could enter into an agreement with his employer. I suggested something to that effect at the first meeting, I think it was held here some time in the winter, I said then that if a man—I asked the question—if a man having one eye, lost the other eye, would that be

total disability? I was told it would. If he had one arm and lost the other that would be total disability, and the company would be responsible for a total disability. I say that is an injustice, and injustice not alone to the employer, but it is an injustice to the man himself, because it really does not seem fair. If I, for instance, were an employer, and a man with one eye should come to me, and want to go to the mines as a laborer, and in breaking coal he should lose the sight of that eye, it would be total disability. Ten days after this Law went into effect we had one man who had only one eye have his other eye injured and we thought for a week he was going to lose that eye; that would be total disability; but it would hardly be fair. It does not really seem fair that the company should have to pay for total disability. It hardly seems fair that they should not employ such men. You would say that is discriminating, and it is unfair, Mr. Chairman, you see that, I know.

Now if we have an amendment to this Law that this man who comes and asks for employment and has only one eye, or one arm can agree that if he loses the one eye he will only ask payment for the one eye he loses, that would be fair to the employer, and I claim it would be fair to the employe. I believe that is one of the very important things. Then these men will have work, there will not be any discrimination. We have lots of men who have lost only one eye. We let them come back to work again. One man was afraid he would uot be taken back, he asked me and I said: "Yes, you cau come back to work if you will wear glasses with steel rims, glasses for protection." That is one of the things we ask men to do. Another thing we ask of a man who has a hernia, is that he wear a truss. We will not allow him to work unless he does, not only for the Company's protection, but for the man's protectiou. I don't think it would be a very great injustice if we did discriminate agaiust him by saying: "You caunot have employment if you have a rupture unless you are operated on or wear a truss." Men can be operated on and be cured, then they are safe and the company is safe. I think there is room for amendment to this Law along that line, Mr. Chairman.

MR. THOMAS CARROW, Safety Inspector, Insurance Department, Pennsylvania Railroad Co., Philadelphia, Pa.: Mr. Chairman, I do not speak as a physician, but as one who is expected to analyze perhaps one hundred thousand reports of accidents. For a long time I have realized what a very important part the physician plays, not in the preventing of injuries, but in the amelioration of suffering. Safety work will come and safety work will go, but the physician will go ou forever. The gentlemen illustrated on the screen yesterday how the accident records fluctuate from one day to another. The physician does not fluctuate, he is constantly on the job, and no matter if you pass a whole month without an accident, the day does come when you kill or maim somebody and unless you have the physician ready in attendance fatal results follow. When we compile our year's statistics of the Pennsylvania Railroad we have a great many reports that are classifed as indefinite. Sometimes they run into two or three hundred. We return those to the superintendents to get the actual disability, and in many instances the disability runs up to as high as a year, sometimes eighteen months, sometimes two years, and as I look at these reports time after time, I wonder just exactly how far the physician might have been negligent in the treating of the injury; I have wondered how far the patient was negligent in failing to go to the physician for treatment; I have wondered how far the men in authority have failed in seeing that the men were supplied with proper treatment. In this whole question of accidents frequently the injuries are not so serious as one thinks at first sight. Suppose a man gets a cut on his hand, suppose he is bruised, if he has competent attention and is treated properly he does not suffer particularly. The initial pain is the

most important thing. If these men are properly cared for they will be confined in hospitals where they get all the attention that human sympathy can bestow upon them, and very frequently many other things in the bargain.

There is another phase of the accident question to which the physician is very closely related, and that is the moral status of the men who are injured. My own opinion is that there is not a man in the whole question of accident prevention that can wield so great an influence as the physician in the moral uplift of industry, and to my mind, that is as important as the prevention of injury, and it seems to me that the whole accident problem is as important from the ethical standpoint as it is from the humanitarian standpoint, because unless you have men and women who are decent in their living we can expect a greater proportion of injury and sickness than we would have from those who do lead decent lives. And as one who has had opportunity to see the vast field in which the physician may work—I am not speaking from a scientific standpoint, but from that knowledge that comes from a thorough study of the subject—I say to you, gentlemen, you have great reason to feel gratified for what you have already done, and you have a great field to look forward to in what you may do in the future, because every day that you save in bringing me back to work, you save that much expense and suffering to those who are injured. I thank you.

DR. ARNDT: Mr. Chairman. I should like to have the privilege of speaking but a few words about something that has not been raised here, and which I think is a defect in this law in regard to the reporting of injuries, for the benefit of the employer and the benefit of the employe. I will cite one injury, an injury to the eye. Take a man with a piece of coal in his eye, he is allowed to go any length of time before he reports that. He can report it thirty days after the accident and he can claim compensation. It seems to me that is defective.

CHAIRMAN PATTERSON: In answer to that I can state that we hope, in February of next year, about the fifteenth of the month, to have another conference, at which we hope to have a majority of the physicians of this State. It is our intention at that time to have as the first subject on the program the relation of the physician to the Compensation Law and its proposed amendments. The Legislature meets in January. By the 15th of February certainly a large number of these proposed amendments to the Law are going to be introduced. It seems to me that the medical profession should have some amendments of its own to call to the attention of the Legislature. At our conference in February I am going to ask Dr. William L. Estes, as Chairman of the Committee on Workmen's Compensation of the State Medical Society, to present for our consideration the views of the medical profession upon the amendments to the Law which will be proposed, and also to present such amendments to the Law as he believes the medical profession should, as an absolute unit, introduce.

We also at that time will consider compensation for industrial diseases. There will probably be two acts introduced in the Pennsylvania Legislature; one act amending the Compensation Law to include industrial diseases, and one act providing compensation, as separate pieces of law in industrial diseases. Another problem we will take up at that time, in which the State has a very vital interest, is the problem of the pregnant wage earner, for the State is keenly interested in seeing that those who are born within its borders become lusty and stalwart sons of the State, and it is a grave problem as to whether or not the woman who toils up until practically the conclusion of the term of her pregnancy is physically able and competent to give forth a son or a daughter who shall be a worthy citizen of the State.

Another problem we shall take up at that time is the problem of the treatment of fracture of the long bones. You, gentlemen, I am sure, would be astounded were I to take the time to give you the figures which have come to my attention, due to a analysis of the cases which have occurred since the Compensation Law was passed. It seems to me that if there is any one problem in which we are all vitally interested it is in the reduction of deformity, and the return to productive labor of those who meet with this type of accident. And Dr. Bloodgood, of Baltimore, will come here and present for our attention the subject of first aid, based upon the reports which he has received as chairman of the central committee to investigate first aid, as appointed by the President of the United States.

I shall now ask Dr. Schereschewsky to present for your attention, The Relation of the Industrial Physician to the Problems of Modern Industry. There isn't any subject, gentlemen, which, to my mind, is much more important than this. There is, as we all know, a vast change in modern industry. The old days of the small shop, with two or three workers under the eye of the owner or foreman, have gone by. To-day we have aggregations of shops, built in a central factory village, and there have arisen as the result of the bringing together of large numbers of men, and the introduction of steam and electricity instead of hand power, vast problems, and I know of no one more competent to present them for our attention than our good friend Dr. Schereschewsky.

DR. SCHERESCHEWSKY: Mr. Chairman, I feel as though I ought to apologize for appearing before you so frequently this morning, although in the first instance I was only a proxy; yet a good deal of my thunder was stolen by Dr. Shoudy, who preceded me, so that I am afraid what I have to say here will be, perhaps, in slightly different terms, what has already been put before you. Nevertheless, the objects which lie within the grasp of the medical organization in industry to-day are so important that I do not believe that some repetition of what may be done is so very far amiss.

THE RELATION OF THE INDUSTRIAL PHYSICIAN TO THE PROBLEMS OF MODERN INDUSTRY.

By DR. J. W. SCHERESCHEWSKY, United States Public Health Service, Pittsburgh, Pa.

I think there is nothing more hopeful than our universal desire to interpret anew that somewhat abused term "industrial efficiency;" to get at the basic factors which insure it. We are rapidly becoming dissatisfied with our old conception of this term, namely, the mere striving towards the goal of quantity production, through diminished cost, with elimination of the consideration of every factor not at first sight immediately concerned with the manufacture of the finished product. Yet such methods, while superficially they have appeared in the past to realize their ends, are really destructive rather than constructive. In them conditions of the present are deemed of para-

mount importance; the future is lost sight of; no account is taken of the fact that a truly efficient industrial organization studies not only the conditions within itself, but also its relation to other industries and to society. Such methods rank men with machines, "scrapping" either ruthlessly as soon as their utility is outworn—yet with this difference: The machine at least receives the benefit of careful design, construction, and maintenance, so that its productivity may be a maximum while it lasts. The defects of this conception of industrial efficiency have long been manifest to the thoughtful and progressive. We realize, after all, that our marvelous industrial development is but the outward expression of our creative impulses; that industry as a whole is but the co-operative means of supplying and distributing to each social unit the necessities and luxuries of life in such measure that in the end this world may be a happier and better place to live in.

To do this continuously and effectively, we must look beyond ephemeral production; we must determine the basic factors which insure sound industrial development and expansion. Viewing the problem from this standpoint, intelligent industry has realized that man himself is by far the most valuable asset both to industry and to society at large. It admits at once that true efficiency lies in the prevention of all useless waste. Then it follows that we must cut short immediately that human wastage of which we have recked the least in the past, the waste which is the most difficult to replace, the wastage of life and health.

I need not remind you that in our industries to-day a vast destruction of this life and health due to preventable causes still takes place. I need not repeat to you the figures of statisticians which estimate the economic loss of nearly a billion dollars resulting annually because of ill health largely due to preventable causes in industries. It seems a self-evident truth that the conservation of the health of workers is the basic factor in the efficient organization of any industry. Our first solicitude must be, that occupation in no industry shall bring about the curtailment of the normal period of human productivity; our second that our growing generation enter industry with healthy minds and bodies. That this is the basic factor of true industrial efficiency has become generally recognized by the thoughtful. This conception is now leavening the entire industrial body.

The crying problems of modern industry therefore are essentially health problems; the means for protecting the life and health of workers. All progressive employers are agreed on this point. What is needed are effective agents to give practical force and application to preventive measures already worked out, to detect new causes of industrial disease and disability, to devise new measures for the pro-

tection of the health of wage earners, to spread the gospel of sanitation and personal hygiene. With these necessities before us, a figure both familiar yet strange looms to the front, that of the industrial physician. This figure is familiar because we have had the company doctor for many years; it is strange because the fundamental importance of health maintenance and its allied problems in the development of the newer industrial efficiency has invested this figure with new attributes, new possibilities for good, and is holding forth to it a commanding sphere of usefulness. In a word, we must, regard the industrial physician as a man who has it in his power to contribute largely to the solution of the manifold health problems of industries, to assist in raising industry to a state of true efficiency such as exists nowhere at present.

Yet the extent to which the industrial physician succeeds in realizing the potentialities now placed within his reach depends, first, upon his own conception of his work; and second, upon the education both of employers and employed to a true conception of the role which may be played by industrial physicians in the further development of our industrial organization. Let us then briefly discuss the potential duties of the industrial physician so as to gain some idea of the scope of his field of duties. The first and most important contribution the industrial physician can make to industrial efficiency is the maintenance of the plant personnel in as nearly a continuous state of bodily health as possible. The industrial physician therefore must be regarded as the head and most important functionary of the "health service" department which any industry owes to its workers as the trademark of its progressive character.

Physical Examinations.

If the industrial physician is properly to supervise the health of the working force, he must have close knowledge of their physical condition. This is gained through the physical examination of new employes, the object of such examination being to determine and record the condition of health of the applicant. With this knowledge the man may be properly fitted to his job; those suffering from contagious diseases are detected; causes of future disability and ill health are discovered in their incipiency, so that they may be removed before irreparable damage has been done, or the economic productivity of the worker compromised.

Stress should here be laid upon the fact that such physical examinations should not be used as a selective means. To reject those not reaching a definite physical standard, while it may improve the general physical status of the working force, must nevertheless be regarded as a shortsighted economic policy, for it brands as unemploy-

able a large number, who in suitable employment could acquaint themselves efficiently. What is needed in such cases is to give employment which shall not react to the physical detriment, for in this way the economic independence of the individual is preserved.

The knowledge thus gained of the physical status of the personnel is expanded and reinforced by periodical reexaminations. This is particularly necessary when processes are of such a nature as to subject the workers to the hazards of occupational disease. These are examined at such frequent intervals as to insure the detection of such diseases in their incipiency, so that those affected may be given different employment and the efficiency of the precautions adopted against such diseases scrutinized.

Medical Advice and Treatment.

It is evident that it will not be sufficient for the industrial physician to detect disease. The earning capacity of those in ill health should be restored at the earliest possible moment. Here the industrial physician has a most useful function to perform. Data collected from various sources show that simple ailments are a prolific cause of much time loss and disability among workers. The personnel of an industrial establishment should, therefore, be encouraged to come to the industrial physician, not for injuries alone, but whenever they feel indisposed, so that if the sickness be serious, an early diagnosis is made, and steps are taken for appropriate treatment at the time it does the most good, or, if trifling, the symptoms may be relieved by simple remedies. Such service not only repays itself in the prevention of time loss, but creates numerous points of contact between the industrial physician and the working force, so that soon he becomes their guide, philosopher, and friend.

Preventive Functions of the Industrial Physician.

In addition to the medical supervision of the working force, the industrial physician has important sanitary offices to fulfill. On him devolves the duty of being the health officer of his plant. He should have supervision and control of the general plant sanitation. He should so qualify himself in this direction that his services may be freely and advantageously utilized by the administrative officers, in regard to planning illumination, ventilation, water supplies, lavatory and toilet facilities, sanitation of workrooms, safeguarding dangerous processes, mitigation of health hazards, in a word, all the elements which make for a sanitary industrial environment. His qualifications in this direction should be such as to enable him to assume full charge and be held personally responsible for the sani-

tary condition of the establishment. He should also have control of the sanitary aspects of any other feature of the health service department established for the benefit of the working force, such as mutual benefit associations, dental service, and the like. Whenever new processes are about to be adopted, or old ones modified, the industrial physician should have made for himself a position of such authority that he will be one of the first consulted in order to ascertain whether such processes present any new health hazards to the worker.

Educational Functions.

We now come to the educational function of the industrial physician, by the exercise of which he can hope vastly to increase his field of usefulness. We all know that the maintenance of a continuous state of health is not due to any one thing, but to a combination of favorable circumstances. Good health in the main is due to the trinity of good personal hygiene, good industrial hygiene, and good community hygiene. The industrial physician, by virtue of his calling, is placed closer both to employer and employe than any other individual. If, therefore,he have the requisite will and knowledge, he has the power greatly to influence the future upbuilding of universal industrial health. He is the apostle par excellence of the gospel of hygiene in industries. His personal influence as an educator can be made to reach not only employers and employes with whom he comes in personal contact, but, through them be made to penetrate the community at large, to the end that improvement in community conditions may go hand in hand with those in the factory. Through his educational efforts, employers too, could be induced to take a greater interest in the sanitary conditions of communities in which their industries are situated. In this way, through the educational efforts of the industrial physician, he may be an essential contributor to the achievement of the three essentials to the conservation of industrial health already mentioned, i. e., good hygiene, good factory hygiene, and good community hygiene.

Finally we come to that function of the industrial physician, the fulfillment of which is conditioned by the personality of the man himself. Industrial progress has been much hindered by misunderstandings between capital and labor, that long history of bitterness and strife between groups whose interests, in the last analysis, are identical. The solution of problems of industrial health, the cooperation of employers and employes towards making industries safe in every sense, constitute a common point of departure making for a newer and better sense of the brotherhood of man. It is the business of the industrial physician to furnish the connecting link,

to be the avenue through which these co-operative impulses may be fused and blended into one. Who can doubt that if his ideals be high, his qualifications adequate, his viewpoint broad, that he can so develop his personality as to be a potent factor in this direction.

Scientific Researches.

So much then for the duties and relations of the industrial physician in the plant. Towards the scientific world in general, as well as health and labor authorities, he has still other duties to perform. Our data in regard to the prevalence of occupational diseases, the exact relation of occupation to disease, the general knowledge of the medical profession in regard to such diseases is still woefully deficient. Moreover, manufacturers who are genuinely desirous of improving working conditions are often deterred in such attempts because of the dearth of available knowledge as to the standards of hygiene to be maintained.

The opportunity of the industrial physician to make these matters a subject of special research is unexampled. The opportunity is golden for accomplishing work resulting in permanent benefit to mankind. Yet at present, although his duties enable him to observe closely a far greater number of individuals than the average physician, it is but relatively seldom that the name of the industrial physician finds its way into medical and other literature. Still there are hopeful indications that his present apathy is passing. Various associations such as the National Safety Council, the Section on Preventive Medicine of the American Medical Association, the American Public Health Association, are devoting more and more time to the discussion of problems of industrial hygiene, to which the industrial physician must ever contribute the greatest share. More significant than this, an Association of Industrial Physicians and Surgeons was organized in Detroit in June, 1916, to which it is hoped, in time, every industrial physician in the United States will belong. In the future we must look to this Association as the source of much scientific research in the field of industrial hygiene. Hospitals, too, are beginning to establish clinics for the study and treatment of industrial diseases. While there is evidence therefore of a general awakening all along the line, to the necessity for the study of these questions, yet the body of industrial physicians themselves must realize that in the end they are the men who must be the leaders in this field, that theirs is the responsibility for the future extent and usefullness of such work.

It will be seen from the foregoing that the man big enough to fulfill the functions of the industrial physician as I have outlined

them, is no ordinary man; that his relation to the solution of modern industrial problems is indeed intimate. Yet time and opportunity all call for the man qualified to attack these problems of health, upon the solution of which must rest the foundation of new industrial efficiency. In the past the need of the hour has usually produced the man to fulfill that need. I, for one, am confident that the industrial physicians as a group will recognize opportunity knocking at the door, and will welcome it.

Dr. Wm. H. Walsh, American Hospital Association, Philadelphia, Pa.: Mr. Chairman, I have certainly enjoyed the paper of our friend, Dr. Schereschewsky, and I hope that the ideas which he has put forth in that paper will be very widely circulated in the State of Pennsylvania. I think it puts a new aspect on the question of the so-called industrial physician. The duties of the industrial physician since the enactment of the Workmen's Compensation Act have changed, and those physicians will have to realize that fact. I do not think that Dr. Schereschewsky's paper needs much discussion; it contains a mass of self-evident facts.

Mr. M. Goodspeed, General Electric Co., Erie, Pa.: Mr. Chairman, I want to endorse most heartily the presentation of these papers this morning. I speak now as a layman, I am not a physician. You will find that out very soon, but there are two or three points I should like to bring to you as physicians that, from a layman's standpoint, I think can be emphasized to advantage, to the physician, the employer, the employe and to the public as well: First, the power of the physician to act as a guide and counselor, not only to the employe, but through the employe to the home, to emphasize the value of right living, the value of right hygiene, the value of right conditions. Further, the physician can protect not only the man himself from entering a position for which he is not physically suited, but he can protect the other employes from dangers due to physical, mental or diseased condition in the new employe who is being placed along side of the old faithful man, and that is one point that I think can be emphasized very well both to the old man and to the new man, that the new man should be capable of filling his place well without endangering his fellows, and to a large extent that is up to the physician.

That brings me to my second point: The physician needs to know more than he does at the present time. I realize very thoroughly the long training the physician must have before he receives his diploma, his certificate to enter practice, but we are coming to a time now when there is a new condition existing. You are not only acting as physician to the man, consulting or prescribing, but you are also acting and judging whether that man is capable of filling a certain position as employe, with the result that you must broaden your experience so that you are able to know what certain lines the employer demands of a man to fill that position. That is what I mean by saying that your experience needs to be broadened. It may not apply to anyone here, I know that it does in very many places where the physician has been hedged in by his practice, so that he has not kept up on the work of the manufacturers, the positions that the men actually fill. That is one point I want particularly to emphasize, the interest of the examining physician in knowing something about the place to which the man is going; and you can only get that by seeing the place and by knowing something about it first hand.

One other point I want to bring out. I believe that if this program had been reversed this morning it would have been slightly better for this reason, it seems

to me that the first paper, if it had followed the other two, would have shown the means to the end. We are asking that the conditions shall be bettered for the employe and the employer. Now judging from the data which has been presented in the last two papers it is desirable that physical examination be made. This tends to lead up to the fact that certain people are not qualified for certain positions. It should also lead to recurrent examination, so that if a person becomes disqualified he will not be allowed to remain a hazard to himself or to his fellows. This brings us back then to the fact that under these conditions certain health or occupational diseases must be taken care of. In that connection you are also coming back to the discussions of yesterday, which brought out the fact that in order to secure the best conditions you have got to come back, not to the employe, who has applied for the position, but you have got to go back to the home conditions. That was brought up in one of these papers this morning. Can a man come in after being up all night with sickness at home, or with other conditions, can he come in to work and not he more liable to accident? Can he be efficient? Can he do it? Back of that you have to go right back not to to-day but back to the training of the child, so that he knows how to live right. That takes you back to the public conditions at the present time, and, gentlemen, it is time that we were taking more interest in those conditions and making ready, so that the children of to-day, who are employes of to-morrow, will know how to live properly and how to be more efficient

CHAIRMAN PATTERSON: We are very fortunate in having with us at this moment a man who is doing yeoman service in his state. Due to the able and efficient administration of the Department of Labor, the fame of New Jersey is spread broadcast throughout this country, and it is my privilege and pleasure to introduce to you the distinguished, efficient Commissioner of Labor, Lewis T. Bryant, of the State of New Jersey, who will say a word to us.

COL. BRYANT: Mr. Chairman, ladies and gentlemen, I am always glad to have an opportunity of speaking to any body of physicians who are really interested in a cause which, I think, is the most important problem which is confronting the nation to day, and that is the conservation of the health of operatives in our industrial establishments. The safety first movement, to the conception of the average man's mind, seems to be the prevention of actual physical injury, amputation of fingers, maiming of the body, or something of that nature, but I believe it ought to be extended, to include the whole industrial conditions of employment, not only so far as the actual health of the operative is concerned, but even to include the comfort of the operative, because I believe that there is an absolute economic reason for providing not only healthful, hut comfortable and pleasant surroundings. I have been Commissioner of Labor of New Jersey for a great many years, twelve years, and that is a long while for a man to hold a political job even in Pennsylvania, and I have seen a great many remedial statutes placed upon our books. I have been fortunate enough to have had an opportunity to stand back of some movements of which I feel somewhat proud, and I want to say that as a profession we have had less encouragement, less assistance from the physicians of the State, I think, than from any other body of men. I believe that one of the weaknesses of the medical profession in our time is the absolute ignorance of the industrial problem. I believe there ought to be more attention paid in medical colleges to the education of the physician along industrial lines, that he should have some conception of the occupational disease problem, so that when the patient comes to him he is able to analyze the complaint, diagnose the disease and notify the respective authorities. Now in our State the law requires that physicians of the State report occupational disease. It is really pathetic to find the comparative-

ly few cases which are reported. I believe if a physician knew of a smallpox case, or any other contagious disease, and failed to report the case as required by law, he would consider that he had done an unethical thing, that he had not risen to the proper position in his profession. But the occupational disease, which is just as important,. is not reported. For instance, take the disease of lead poisoning. If every lead poisoning case were reported to the department of labor we should have so much better premises upon which to attack the problem. I was talking to a physician in the city of Paterson and told him how I felt on this subject, and he seemed to take exception, he said he did not think I was right at all, that the attitude of the physicians was entirely friendly, that they were anxious to cooperate and help the Department of Labor. A little later on iu the discussion he spoke about a case of lead poisoning which occurred in a printer running a linotype machine. He described how this man had finally contracted wrist-drop; how he had taken him out of this room; how he had followed another occupation for a while and returned to his normal health; and later how he had gone back into the room and the wrist-drop came back again. I said "I should like to ask you one question." He said "What is that?" "Did you report that case to the Department of Labor as a case of occupational disease?" He said "No, I did not." I said "That is exactly the point I want to illustate." We started a campaign in our State to provide an exhaust apparatus for the elimination of the fumes from the linotype pot and the regulation of the dust from the dross and droppings from the linotype pots, in order to prevent lead poisoning. I said "It is not a small job to get every newspaper in this State to put in an exhaust system to carry off those fumes, but we will eventually bring about healthy conditions so that our workmen will not get sick from that cause." I said "Did you ever realize what a splendid argument I would have had if I had had your statement as a diagnosis of a reputable physician." He said "I never thought of that." I said "That is the case in point, the average physician does not." It is a real pleasure to me therefore to meet some physicians who are looking at this thing from the right viewpoint. If they study the conditions which lead up to the cause, rather than simply diaguose the case, I believe the conditions of the workshops in this great State and country would be very materially improved. I thank you very much.

CHAIRMAN PATTERSON: This afternoon we will meet in the hall of the House of Representatives, directly opposite, promptly at two thirty p. m. This meeting stands adjourned.

THURSDAY, NOVEMBER 23, 1916.

MEDICAL SESSION—AFTERNOON SESSION.

Chairman, FRANCIS D. PATTERSON, M. D., Chief Division of Hygiene and Engineering, Harrisburg, Pa.

The meeting was called to order by the Chairman at two thirty o'clock p. m.

CHAIRMAN PATTERSON: If there is any one injury in which the ounce of prevention is of greater service than the pound of cure, it is in the injuries to the eye. It is perfectly possible for a man who has lost his leg, or his arm, to get an artificial leg or arm that will give him acceptable service and enable him to take his particular place in the industrial world, but when a man receives an injury which results in permanent impairment to either one or both eyes, no matter how beautiful or how wonderful the artificial eye may be in improving his personal appearance, it is of absolutely no value as a means of vision, and so we are fortunate to-day in having with us a man who has devoted many years of his active professional life to the study of the conservation of vision, who has served with distinction as the Chairman of a Committee on the Conservation of Vision of the State Medical Society. It gives me great pleasure to introduce to you Dr. William Campbell Posey, of Philadelphia, who will speak to us on Industrial Eye Injuries and their Prevention.

INDUSTRIAL INJURIES TO THE EYES.

By DR. WILLIAM CAMPBELL POSEY, Former Chairman Committee on Conservation of Vision, Pennsylvania State Medical Society, Philadelphia, Pa.

Statistics show that in the United States 75,000 persons are killed annually through accidents. Of this number, 35,000 die from industrial injuries. Of 2,000,000 annual nonfatal accidents, probably 160,000 are accidents to the eyes.

Although the last census records the number as smaller, there is strong evidence to place the number of blind in our country at about 100,000, of whom approximately 10,000 lost their sight as the result of accidental injury in industrial occupations. Quite apart from the suffering and unhappiness entailed by these accidents, which can not be appraised in dollars and cents, it has been estimated

that it will cost the nation nearly ten million dollars to care for these blinded workmen during the remainder of their lives.

Small wonder is it, then, that those who are interested in the preservation of the health and lives of the inhabitants of this Commonwealth have assembled here, not only from humanitarian but also for economic reasons, to discuss ways and means to lessen the number of accidents and to safeguard both the workman and State against preventable loss. In discussing the phase of the subject alloted to me, namely injuries to the eyes, I shall preface my remarks by a consideration of the industries which provide the greatest number of ocular accidents. According to a statement recently forwarded me by the National Association for the Prevention of Blindness, "the industries providing the greatest number of industrial accidents to eyes are foundries, galvanizing plants, machine factories, metal working and wood working plants, lead and color factories, chemical works, and the dusty and poisonous trades. The classes of workmen showing the largest percentages of eye accidents are smelters and furnacemen, welders, grinders and machinists, furnace helpers, and railroad workers. It may appear rather strange that this last class, railroad men, are so subject to eye accidents in their work, yet we find that the records of the great railway systems which operate one-half of the total mileage in the United States, admit for the period 1908-1910 seven cases of total disability, i. e., loss of both eyes, while three hundred and ninety suffered the loss of one eye." Railroad employes exposed to eye injuries preventable by goggles and chippers, riveters, boiler makers and grinders.

One of the greatest menaces to the eye is burns from molten metal. This may occur in filling the ladle with the metal or when the latter is being poured into the mold, the sparks flying in all directions, frequently burning the face and eyes of the workmen. Most serious are the explosions which follow when molten slag or lead are permitted to come in contact with vessels or implements containing moisture, the superheated steam thus generated, blowing the hot metal with great force for considerable distances. The accompanying illustration demonstrates the value of the protection afforded by a pair of goggles, both lenses being covered by babbit metal. Had the workman wearing them not been thus protected, he would doubtless have lost the sight of both eyes.

The next series of slides (The lecture was illustrated by over 100 lantern slides showing workmen engaged in the various industries dangerous to the eyes, and the various devices such as shields and screens which have been installed in many manufactories to prevent accidents to the eyes. Some of these slides were loaned the speaker by the National Association for the Prevention of Blindness, by Dr. W. W. Blair, of Pittsburgh, and by the State Department of

Labor and Industry. Others he had prepared under his own supervision to illustrate the text of his address) illustrate the dangers to workmen's eyes in the process of "chipping." Chippers are men who remove the rough surfaces from steel castings which frequently remain after the molten metal has hardened, this being accomplished either by a hand chipper or by means of the more modern pneumatic implement. The fragments dislodged fly from the casting with great velocity and force and frequently injure not only the eyes of the chippers themselves, but also those of their fellow workmen or the passer-by. Goggles are imperative for all those in the vicinity of or engaged in chipping, and screens composed of wire or burlap should be so placed that they act as buffers to the flying particles. Flying scale is frequently thrown off from the rolls of a blooming mill and employes engaged in this work should wear protecting masks of fine brass netting.

When water and steam is turned into a water gauge, with which all boilers are provided, the pressure at times is great enough to burst the glass and to blow the fragments of glass into the face of the engineer observing the gauge. In a recent year in Massachusetts seven men lost the sight of both eyes and one workman that of one eye from the bursting of such gauges. This has been obviated by providing the glass column with a protecting shield of brass which covers the glass when turning steam and water into the gauge and is capable of being rotated to the side when the danger of this act is over and it is necessary to ascertain the registration of the water in the boiler. The New York Central Railroad has installed an admirable model of this device in their works, and no accidents to the eyes have occurred from bursting gauges among their many employes since it has been in use.

The emery wheel is a constant source of danger. When operated at high speed, it may burst and its fragments kill or injure workmen close at hand. Most serious are the burns and scars inflicted upon the cornea of those who work with unprotected eyes, by the dust given off from the wheel while tools and instruments are bing ground upon it. The breaking off of fragments from the tools in the process of grinding provides, however, a still greater source of danger to the eyes, and many an eye has been blinded by these flying particles of steel. Many manufacturing establishments now protect their workmen from injury from bursting wheels by encasing them in hoods of steel, and the eyes of the men from broken particles of wheel and from flying chips by shields made of heavy plate glass, the transparency of the glass permitting the workman to observe the tool he is grinding. Most wheels are also provided with exhaust connections from the rear of each hood to a forced draft pipe, which carries away much of the dust by a vacuum system.

Another frequent source of danger to the eyes, not only in the industries but also in domestic life, is the breaking of steel particles from the heads of tools which have become flattened over or mushroomed from long use. While mushrooming is especially liable to happen to cheap tools, it may occur also in the best hand-wrought implements, for a hammering tool must be fairly soft to prevent its becoming brittle and if used too long it will naturally flatten out. The prevention of accidents from this source consists in sending the tools to the blacksmith just as soon as they begin to show signs of wear. The Tennessee Coal, Iron and Railroad Company has considered this danger of sufficient importance to cause a warning placard to be posted in their yards which reads as follows,—"Danger. You are warned against working without proper eye protectors or with battered tools. Get proper tools and eye shields from you foreman."

Some of the most serious and ofttimes hopeless cases that the opthalmologist is called upon to treat occur from blasting operations, either in mining or in excavating for foundations, etc. Such accidents result either from the premature explosion of cartridges with too short fuses, or by delayed explosions, the injuries occurring when the workmen, after what they suppose sufficient time has elapsed after the charge has been fired, seek to investigate the failure of the explosion. At other times, when a number of cartridges have been fired by an electric current, the workmen clearing away the debris caused by the explosion, are seriously injured by the delayed explosions of several of the cartridges which had failed to go off at the initial charge. The injuries to the eyes in such cases are frequently caused by little bits of copper from the exploded dynamite caps, or from fragments of rock, substances incapable of magnetic attraction, and on that account extremely difficult and often impossible to remove from the eyes.

Another source of injury to the eyes is from exposure to an excessive amount of heat and light rays, emanating from furnaces in which glass and metal are being subjected to a temperature of great magnitude. In welding of metals by the electric arc, the oxyhydrogen flame or some similar high temperature medium, a temperature of from 4,000 up to as high as 7,500 degrees F. is frequently attained. The ultra-violet rays generated by this process are extremely harmful to the eyes, inducing changes which may lead to blindness. In some of the processes it is neccessary for the workmen in charge to gaze intently into the furnace and watch for the change in color of the molten mass which indicates that the desired transformation in its composition has been attained. Workmen subject to such intensity of light and heat radiations must wear proper protecting devices, the welders are usually equipped with a com-

plete metal helmet, which is absolutely light proof, except for the ocular apertures, which are covered with certain forms of colored glasses. Mention will be made presently of the best kind of glass for this purpose.

Faultily constructed electrical appliances may be a source of eye injury, blindness from cataractous formations in the lens sometimes occurring in eyes subjected to the blaze of light from a short circuit. I had under my care a few years ago a workman in one of the large coal companies of the State who had lost his sight in this way, but who fortunately regained it after a successful cataract operation upon each eye. Venturesome electricians occasionally essay to light a cigarette from an electric arc, oftimes with disastrous consequences.

An indirect, though probably a not infrequent cause of accidents in our factories, is improper lighting of the workrooms. In many establishments the lighting is so insufficient or the lighting fixtures so badly placed, that workmen are either unable to see the dangers which beset them, or their eyes weakened by the glare of unprotected lights, become incapable of properly fulfilling their functions.

Dr. Nelson M. Black, of Milwaukee, who has made an extensive study of factory illumination, says in this connection—"Factories should be well lighted, first because poor lighting injures the eyes, and second because poor lighting detracts from the earning capacity of the workmen and is an extravagance. Good lighting is economical. Superior work can only be accomplished under good lighting conditions, with which vision is preserved, health is conserved, and factory output is increased from eight to fifteen per cent. Accidents are much less likely to occur. The saving produced by good lighting will pay many times over the cost of the installation of good lighting facilities. The maximum number of accidents occur during the time in which artificial light is used. A well lighted factory is more productive than a poorly lighted one. Bad lighting is detrimental to eyesight and health. It is an extravagence that factory owners can not afford.

The illumination of all rooms should be uniform and as devoid of shadows as possible. Ordinarily the system of indirect lighting which has so many admirable features, is unadapted to this kind of illumination, as the ceiling and walls of factories are necessarily darkened by smoke and dirt and there is no reflection of the rays of light. Some steady and sufficient form of direct lighting is therefore indicated and an overhead system which throws a diffuse light upon all the machines is preferable to one which has for its object the illumination of single lathes, wheels, etc.

Lack of time forbids further description of the industries which endanger the sight such as occur in bottling establishments, in acci-

dental poisoning from wood alcohol, etc., but brief mention must be made of burns by acids and alkalies. Lime burns are exceedingly common, and the inexperienced surgeon will often be deceived at first by their apparent triviality, not realizing that the danger to sight is not from the immediate result of the burn, but from the later implication of the cornea from the slow destruction of the surrounding tissue wrought by the alkali. Where there is danger from chemical accidents, water should always be available for washing the acid or caustic agent from the eyes. For this purpose it is better to flush the eyes thoroughly but gently by water running not too forcibly from a rubber hose. This is usually a much better expedient than trying to neutralize an acid with an alkali, or an alkali by some weak acid solution.

The remainder of the address will be devoted to a rapid consideration of the best means available for preventing and minimizing the danger of ocular injuries occurring in industrial occupations. In the first place, it should be the duty of the employer to install in his work place every form of safety device which is on the market and which is adapted to the peculiar form of his industry. Proper goggles should be furnished to the employes and a sincere and active campaign of instruction instituted in the works, to instruct and demonstrate to the workmen, the various dangers to which they are subjected, and explanations and reasons given for the safety devices which have been installed. An efficient first aid service should be created, and so far as the eyes are concerned, workmen should be absolutely prohibited from offering any aid whatsoever in case of injury. Too many eyes are lost in consequence of well intentioned though misdirected attempts at removal of chips and cinders by "handymen" about the shop. I am convinced from a long experience in treating workmen's eyes, that dirty toothpicks and ends of matches, rusty pocket knives, etc., are responsible for many hundreds of blind in our own State alone.

In case of injury a protective bandage should be applied and medical aid sought at once. In the proper cleanliness of the hospital, with its manifold appliances, the skilled physician will detect that the chip which the workman had thought had only grazed his sight or had dropped from the eye entirely after indicating a slight wound, has in reality entered the globe. Under X-ray exposure, the chip is located, a magnet applied, the foreign body removed and the eye saved. How different from the fate of an eye that has been scraped by a rusty knife by a comrade, allowed to become infected, and is lost in a few hours from suppuration.

Placards graphically describing the dangers of injuries to the eyes in the various occupations in which they are engaged, printed in the languages of the workmen, should be hung in prominent positions

in the works. In addition to these sources of information, the foreman or others in authority should give explanatory and admonitory talks to the workmen at frequent intervals, and every effort should be made to acquaint them with the danger of their work. With the employer thus engaged, at no little cost and annoyance to himself, to safeguard his employe, it seems but just that the workman should willingly co-operate to the best of his ability and avail himself of the safeguards which have been provided for him. Indeed, the exigencies of the situation seem so great, that it does not seem unreasonable to attach some penalty in the event that proper treatment is refused or postponed. This would appear to be especially proper in the matter of wearing goggles, for the usefulness and effectiveness of this simple device to protect eyesight has now been proved beyond gainsay. Thus the American Car & Foundry Company has proved that the use of goggles has reduced accidents in their plant seventy-five per cent. It is argued by some that the wearing of goggles in the event of accident only jeopardizes sight the more, on account of the liability of injury to the eyes from the broken glass of the goggles. As a matter of fact, however, this apparent danger is without foundation, as may be judged by the following evidence. There has not been a single case of injury to the eyes from broken glass since goggles were introduced into the shops of the New York Central Railroad. The American Steel Foundries Company collected 94 pairs of goggles, all with lenses broken from flying chips of steel from their works during a period of 3 months, and in every case the eyes had escaped injury. Had the goggles not been worn, some of the eyes at least would have been lost. In another large steel foundry where spectacles have been worn since 1911, 48 pairs of goggles were collected in one month with lenses broken by flying pieces of steel; 297 pairs were gathered among the several foundries covering a period of six months. During this entire period not one serious eye accident occurred. (This information was derived from a statement submitted to the speaker by the National Association for the Prevention of Blindness.)

Furthermore, in an experience of nearly 25 years, during which I have treated many hundreds of eyes injured in industrial establishments, chiefly in my service at the Wills Eye and the Howard Hospitals, of Philadelphia, I do not remember having seen a single eye injury from a broken goggle, nor can I recollect having observed similiar accidents in the practice of any of my colleagues. Manufacturers of goggles are exceedingly careful to obtain a proper tensile strength of glass and frame. I have been informed, for example, that one of the tests applied consists in dropping a hardened steel ball five-eights of an inch in diameter, 20 inches from an electric magnet directly upon the surface of the lens, without permitting the

latter to rest on any support other than its own frame. The lenses subjected to this test will withstand 35 blows of this kind without breaking, and the construction of the frame is such that in the event of a breakage occurring, the frames tend to push the broken glass away from the eyes instead of allowing it to be pressed in.

The perfect goggle has not yet been made. It is true that there are a large number of quite satisfactory goggles on the market, which serve the purpose admirably of protection against such accidents as are caused by flying fragments of steel, etc., for all that is necessary under such conditions is a glass of sufficient strength to resist the impact of the foreign body, and with wire or leather screened sides with small apertures provided, permitting of some circulation of air, to prevent the entrance of chips from the side. To save the eyes from injury from chemical accidents and from molten metals, greater protection is necessary, as some form of transparent medium other than glass which will not become fogged or steamed when subjected to heat and gaseous fumes.

A special form of goggle is necessary when the eyes are exposed to the action of intense heat and light rays, such as occur in oxy-acetylene welding, etc., on account of the injurious effect not only of the heat, but also of the ultra-violet rays generated in such processes, upon the eyes. This has been accomplished in the past by the use of glasses that absorbed the infra-red or heat radiations. The objections to this method are first, that it has been found impossible to make a glass that would absorb sufficient of the dangerous infra-red or heat radiations at one end of the spectrum and the ultra-violet or chemical rays at the other without cutting down the useful and harmless visible light to such an extent that it was extremely difficult for the workman to see his work; second, that the glass by absorbing heat radiations soon becomes intensely hot and then gives out heat radiations itself, thus defeating the object in view.

Quite recently, Professor Pfund, of Johns Hopkins University, conceived the idea of getting rid of the infra-red or heat radiations by reflection, devised the lens which bears his name and which is made as follows—A flat piece of Sir William Crookes, or other glass of like nature, is coated with an almost infinitely thin layer of 22 karat gold. This gold layer being extremely delicate is protected by a flat piece of hard white crown glass. According to Professor Pfund, the action of the combination is as follows: All of the radiations, except the extreme ultra-violet, pass freely through the hard white crown glass. Encountering the gold layer, the ultra-violet and visable radiations up to about the middle of the red, pass without difficulty between the little particles composing the gold layer.

At about the middle of the red the light waves become too long to pass between these little particles and rebound or are reflected. Thus half of the red and practically all the infra-red or heat radiations or waves are reflected or thrown back. The ultra-violet and visible radiations or waves which have passed through the gold layer encounter the Sir William Crookes glass, which allows the visible light to pass freely but absorbs the ultra-violet. Thus we have disposed of the infra-red or heat waves by absorption, and have passed the visible. This visible light can be regulated by varying the thickness of the gold coating. As regularly made the coating is of such thickness as to pass 25 per cent of the visible, but, if necessary, can be made to pass 75 per cent of the visible rays without seriously cutting down the efficiency in the infra-red or heat end of the spectrum. As regularly made it reflects 98 per cent of the heat and is claimed by Prof. Pfund to be at least twenty times as efficient as the best of the old style protecting glasses for the same transmission in the visible spectrum. Proof of the practical value of Prof. Pfund's glasses still awaits, I believe, practical demonstration.

According to Dr. Nelson M. Black, of Milwaukee, who has long been interested in this subject. "Glass in which the color tends toward a yellow or yellowish green affords the greatest protection from the harmful rays. Such glass is found on the market under the name of amber, euphos, fieuzal, akopos and noviol glass. Even this glass must have added to it, in the process of manufacture, a dark smoked tint to reduce the intensity of the glare in order that it may be used in comfort.

"Deep red glass is an effective protection against dangerous light and is in general use in many industries. It is usually combined with yellow, blue, or green and blue glass. The objection to such a combination is the inability to distinguish details and to see to get about, also the increased weight caused by using two or more pieces of glass."

I am glad to announce that there seems to be a chance of soon having an authoritative report upon the spectral values of glasses of various tints, for I have been recently informed by the Bureau of Standards in Washington that in response to a request made by me a year ago as Chairman of a Committee on the Hygiene of the Eye, operating under the auspices of the American Medical Association, they are making a spectrophotometric examination of a series of colored glasses submitted by the leading optical houses of our country. Transmissions for ultra-violet, visible, and infra-red rays will be determined and the results of the investigations will be published in a circular or bulletin. It will be a source of great satisfaction to have an authoritative report on this important subject.

CHAIRMAN PATTERSON: I am sure that we are all under a debt of gratitude to Dr. Posey for his very able exposition of this very important subject. With your permission we shall postpone the discussion for a few minutes and with the permission of Mr. De Blois, in view of the fact that Dr. Hatfield is obliged to catch a train, we shall have him present to us for our attention, the subject of Tuberculosis as it Affects the Worker. Dr. Charles J. Hatfield, I am sure, needs no introduction to any physician in Pennsylvania; he has done yeoman service in the Phipps Institute of Philadelphia and in the assisting of Dr. Dixon in carrying out the magnificant work in Pennsylvania for the protection of our industrial workers from the white plague. Dr. Hatfield has to catch a train and that accounts for the slight shift of the program.

TUBERCULOSIS AS IT AFFECTS THE WORKER.

By DR. CHARLES J. HATFIELD, Executive Director, Henry Phipps Institute of the University of Pennsylvania, Philadelphia, Pa.

Dr. HATFIELD: Mr. Chairman, when we consider the mortality from tuberculosis by ages, we find that between the ages of fifteen and thirty-nine years we have about one-third of all deaths from tuberculosis. In the decade next beyond, a quarter of all deaths are due to tuberculosis. Certain investigations of local conditions seem to cast a further light on the incidence of tuberculosis among workers. For instance, Dr. Hayhurst of Fall River, recently made an investigation of the health of 500 cotton mill operatives, both male and female, from the age of ten years on up. Of the males 32.8 per cent of all the deaths were due to tuberculosis, and of the females, 37.5 per cent of all deaths. Therefore, when we consider the tuberculosis mortality by ages it is easily seen that at the time when in industry we may expect the greatest productivity, we have tuberculosis appearing as the most serious disease problem. In this connection it is natural to consider the effect of various occupations upon the health of the workers in respect to tuberculosis. This consideration is directly in line with the views that have been so vividly demonstrated to us by Dr. Posey. We know that in a dusty trade, especially where there is mineral or metallic dust, we have a large mortality from tuberculosis. We know, for instance, that marble and stone cutters, brass, copper, foundry, and machine shop workers, tin and sheet iron workers, especially those that have to do with grinding and polishing machines, become peculiarly subject to tuberculosis. The reason for this is that any dust that irritates the respiratory tract lessens its resistance to any infection and the metallic and mineral dusts, which are mostly sharp dusts, cause injury and irritation to the mucous membranes. In addition to the trades already mentioned, we have a high mortal-

ity among cigar and tobacco workers; also among printers and pressmen. These represent, perhaps, the trades in which we have the highest mortality from tuberculosis. We know that out of every one thousand stone and marble cutters about fifty-four can be expected to die each year from tuberculosis; and in the tobacco industry we may expect forty-seven out of every one thousand persons to die of tuberculosis each year. There are however other factors which we should consider in speaking of the mortality of tuberculosis by occupations. One of these factors is the question of maintenance as represented by the wages. On this subject the statement is made by Dr. Woods Hutchinson that tuberculosis can really be considered as the price of civilization, and this price is paid by the lower two-thirds for the benefit of the upper third. The statement is made by Korosi that of the inhabitants of Budapest there die of consumption in every ten thousand well-to-do persons, 40; among every ten thousand who are moderately well-to-do, 62.7; of ten thousand who are poor, 77; and of ten thousand who are paupers, 97. Therefore in the lower classes of labor, we may expect to see a higher mortality from tuberculosis than occurs among the better paid classes of employes.

It is correct to speak of occupations being very closely associated with the disease; but it is apparent that we are not quite safe in considering solely the kind of occupation and deciding that certain occupations are or are not healthy. We must also take into consideration the living conditions of the worker. Of course the man in industry is at his work for eight hours six days of the week; and the other sixteen hours of his living time on week days and twenty-four hours on Sunday are spent away from work. It is up to us, before we decide that any particular occupation is definitely predisposing to tuberculosis or harmful to health, to determine how those sixteen hours or more spent away from the occupation, are taken care of. Quite recently there was an interesting study made of a number of cigar workers who came from the northern part of New Jersey into Pennsylvania for treatment. They were mostly Lithuanians, Bohemians, and people of other races of central Europe, who could speak little English. One of my colleagues, Dr. Landis, was interested to the degree that he decided to investigate. He went to their home towns and found that the cigar factories were for the most part, well-conducted, hygienic, sanitary places of business; they were in clean, new buildings, they did not seem to be overcrowded; and the supply of light and ventilation was very fair. Of course, in a tobacco factory it is necessary to provide a certain amount of moisture in the atmosphere, so that one can not expect them to be entirely open to outdoor air; at the same time the conditions under which these people were working were not bad. When the homes were studied, however, there were found the most atrocious sanitary and health conditions; over-

crowding, a great deal of filth, poor nourishment, dissipation, and low morals—factors tending to lessen resistance. This investigation, I think is quite instructive to all of us. We have no right, on the face of it, to decide that a certain occupation is predisposing to tuberculosis without looking into the conditions under which the hours away from the occupation are spent.

The economic loss from tuberculosis has been carefully studied. I wish to read a short extract from a study made by Mr. Frederick Hoffman, the statistician of the Prudential Life Insurance Company, with whose work you are doubtless familiar. He notes that tuberculosis causes annually more than 150,000 deaths in the United States at the average age of thirty-five years. At this age the normal expectation of life is about thirty-two years; so that the real loss of life measured in time, is represented by 4,800,000 years per annum. If we assume that the net economic value to the year of human life at the age of thirty-five is at least fifty dollars, the real loss to the nation resulting from tuberculosis, may be estimated at $240,000,000 per annum. These astounding figures are really conservative, and this estimate does not take into account the social, moral and sentimental value of these lives, which under different conditions, might reasonably be expected to continue for many years. Such an estimate also does not take into consideration the economic loss of these 150,000 deaths from tuberculosis expressed by the amount that has been spent upon their training up to the time of their beginning to work; this, of course, represents a dead loss providing their working time is cut short. For the preliminary time of preparation it is estimated that an estimate of $1,500 per person is by no means excessive for the expense of the bringing up of the boy or girl to the time when he or she has economic value. Therefore we have an estimate of anywhere from $240,000,000 to $330,000,000 as representing the economic loss from tuberculosis. We know that the estimate is, if anything, far below what the actual economic loss to the country and to industry is.

There was a very interesting study made in Boston some years ago by Dr. Locke and Dr. Floyd, both of them interested in tuberculosis work in the Boston dispensaries, as to the economic loss sustained by the city of Boston through the illness of 500 male consumptives who were patients at the Boston Consumptives Hospital. Drs. Locke and Floyd selected at random 500 cases of men who had visited the dispensary during a period of five years. Two hundred and forty-four of the cases studied were dead when the investigation was begun and 256 were living. Over 41 per cent of the men were between the ages of twenty and thirty-nine years. It was found at the date of the investigation that the 244 dead men had each lost on an average of fifty-eight weeks through illness before death. The average weekly rate of wages was $11.89 and the total loss in wages amounted to about

$171,000. Through various methods of arriving at a result it was made quite plain that the total money loss directly sustained by the city of Boston through the loss of these workers, was something over $500,000. This estimate, of course, did not include the subsidiary losses in the lack of support for the children and the general family disablement.

So much for the economic loss from tuberculosis. It is interesting to read what measures have been taken during the past decade to meet this problem and to control the disease in industry. It is convenient to consider first the work that has been done by the employers, that is, the employers' welfare work for their employes. This work has not limited itself to tuberculosis, but in every instance tuberculosis has played a somewhat prominent part. Dr. Price, in his book on The Modern Factory, summarizes the different points in the care that the employers should exercise as to the welfare of their employes. He says that there are really two great headings under which these points may be grouped; one is the improving of the economic condition of the workers, and the other is the improvement of the physical, intellectual and social status of the workers. Under economic conditions the employer should look to security and reasonable increase of income, provided business permits; for increased production there should be increase of wages. There should be attention given to the reduction in the cost of living, by moderate rents, where that feature is controlled by the employer, and by co-operative stores. There shonld be provision for some share of the worker in administration. There should be special provisions like old age pensions, sick benefits, accident and life insurance benefits for the worker.

In relation to the improvement of the physical, intellectual and social status of the workers, the first point he emphasizes is the lessening of danger of accident. Dr. Price suggests also improving working conditions, improved food and diet, recreation, care of health, education and social improvement. Under the care of health there is one point I think we should particularly consider and that is the provision of medical examination for employes. Doubtless this side of the work is a part of the everyday program of many in this audience, and I wish to say that it is a matter of very great importace to the attempt to control tuberculosis. The International Harvester Company and Sears, Roebuck and Company have been carrying on a plan of medical examinations for a number of years. The system was inaugurated at the suggestion of the Chicago Tuberculosis Institute, and, in the method of work the examination for tuberculosis plays a prominent part. Not only an examination when the employe is engaged, but a re-examination when it is indicated, seems to work for the prevention of disease. The medical men in charge report that there is a steadily lessening number of cases of tuberculosis outcropping among

the men under their care, and this in spite of increasingly rigid examination. The question of a regular medical inspection of the employes of great corporations, seems to be gathering in importance and in weight continuously.

The workers themselves have made very definite and sometimes successful attempts, to take care of those of their number who have fallen sick with tuberculosis. We have, of course, many benefit societies and in the benefit society in industry the tuberculosis problem is a very serious factor. A considerable portion of the funds of every society is bound to go to the victims of tuberculosis. In connection with the benefit societies, we have in a few parts of the country sanatoria started by the workers themselves, usually in connection with the labor unions. There is such an institution in Albany, and another in Brooklyn; there is also a sanatorium proposed for the garment workers of New York City, which will be under the Joint Board of Sanitary Control; it is to be opened in May of next year. In addition to these societies and sanatoria, workers have organized tuberculosis associations which have exerted great influence right in the communities in which the workers are living and which conduct a very active work in education and in the diagnosis and care of their sick, also in caring for the patients' families.

There is also a third class of organized effort to take care of those who are ill with tuberculosis, in which both employer and employe have a part. Doubtless many of you know of a plan that has been in operation in New England for some years, especially in Connecticut and in parts of Massachusetts. It is called the Workmen's Free Bed Fund. It was started in Hartford; there is a flourishing association in New Haven, another in Meriden, still another in Worcester, Massachusetts. The geenral plan is for the employes to form themselves into an organization and to raise a fund for the care of the sick. The amount of this fund or a sum equal to the amount of the total sum subscribed by the employes, is subscribed by the employer; that is to say, the fund is doubled by the employer. Then through a joint administration a regular campaign is carried on in that factory or industry whereby any employe or worker who shows symptoms of tuberculosis is brought up for examination, his condition is diagnosed, his treatment is determined and it is decided whether he shall stay at home with proper conditions for treatment, or whether he shall go to a sanatorium. During the time of treatment his way is paid. In addition, in some of these associations there is an arrangement made whereby the people at home are taken care of while the patient is incapacitated. The work has a very wide significance. It means, the participation of employe and employer in a fund that is jointly administered in some cases, in other cases it is administered by a committee of employes. The result of that is that the patient early in the

game is brought under treatment, when there is a good chance of his restoration to work; also with the very important provision that after he returns to work he is going to be watched in order that he may avoid a relapse.

There is a further feature which adds a good deal of interest to this plan where employers and employes provide funds. There are in Connecticut, State Hospitals where provision is made for people to pay their way. Suppose the maintenance is ten dollars; a patient can pay, through the Free Bed Fund, perhaps six or seven dollars of this, and the State makes up the remainder. There you have the participation of employer, employe and the state. This plan has seemed to most students of the question as perhaps almost the ideal arrangement, and it brings us directly to the point which you have been discussing here in your earlier meetings, the question of compulsory health insurance. It seems to those of us who are working especially with tuberculosis, that it would be a most important step if a sound and proper form of compulsory health insurance could be found. We should have the participation of the employer, who is partly responsible, and who is to benefit by healthy employes; and of the employe, who is certainly responsible because he must care for his health outside of working hours; and also of the state, which is responsible for the general hygiene and sanitation of the territory. With these three working together there should be provision not only for the care of those who are actually sick, but for the prevention of disease. If each of the three factors that are particularly interested has a stake in the game, we shall have satisfactory co-operation in reaching a solution of the problems of public health.

CHAIRMAN PATTERSON: We are very grateful to Dr. Hatfield for his very able exposition of this subject, and I am going to ask first of all, that we have a discussion on the subject of Dr. Posey's paper, for I know there are a great many men in this room, and I am one of them, who would like to know what plans in Pennsylvania there are and what other states are doing to enforce the wearing of glasses upon the part of workmen. I am convinced that the solution of this problem is going to be found in the future through education, but I know that the Chair, and I know that many men present, would be glad to know what means are being taken in various institutions to enforce the wearing of goggles for the protection of vision. I should be glad to hear from anyone who can throw any light upon this very important phase of the problem. Mr. DeBlois, what is the duPont company doing?

MR. L. A. DeBLOIS: Mr. Chairman, we are encouraging the use of goggles. I would not say that we are making it obligatory although in one portion of the industry we have gone so far that in case men do not wear goggles, we consider it an infraction of the safety rule and therefore subject to the penalty of immediate discharge. As you all know, it is not an easy penalty to inflict when the labor market is particularly stringent. I personally believe that the educational side

is the strongest point we have. I think a great deal of trouble in the past, especially in a chemical industry, has been through inability to find a suitable and comfortable goggles; in some cases we have substituted fine masks and have gotten better results. Where we have been successful in getting a reasonably satisfactory goggle we have not had so much difficulty with the men wearing them. We have put it up to them pretty strongly, and I think they are coming around very well. But, as I say, the weak point to-day with us is a satisfactory goggle that can be worn comfortably and at the same time afford protection. That is as concerns the goggle which must protect against splashes of hot liquids.

DR. JOHN D. MILLIGAN, Pittsburgh & Lake Erie Railway Company, Pittsburgh, Pa.: Mr. Chairman, I would say that the enforcing of the use of goggles for the protection of the eye in our plants and machine shops has reached the stage that it is compulsory to wear them for the protection of the eyes. It has reduced the number of injuries so much that they are gradually, instead of having three or four accidents, dwindling down still farther. In other words we have had only two injuries within the last four months that amounted to anything. One was the result of a sliver of steel which penetrated the eye, and that was in the handling of a chisel; the chisel cut into the lower portion of the eye and almost enucleated the eye, but through the care of the eye man, the eye has been saved. That is speaking for three or four thousand employes. We have a minimum number of eye injuries now as compared to what it was formerly. We do have, of course, a certain amount of small injury, dust, etc., which is found in every industrial plant, but since the adoption of protection to the eye, which was a number of years ago, and which has been enforced, it has certainly reduced the danger to a minimum. I was very much interested in the paper, and can only say that Doctor Posey went to a great deal of trouble to bring out what have been proved to be facts.

MR. JONES: Mr. Chairman, I can give you an example which I think is eloquent on that subject. It is that of the Steel Car Company, Columbus, Ohio, a risk carried by my Company. They have a rule that not only must every workman wear goggles, but every visitor to the plant is handed a pair of goggles before he goes through the door of the shop, and they have not had one eye injury reported to us.

MR. WRIGHT: Mr. Chairman, glasses are furnished to employes, which is right and proper, but you go to those same men and ask them why they do not wear them, and the very first thing they give you is "They are too heavy, they make my nose sore," or "My eyes are sore." Now you will get that invariably through all your shops and all your mills, and while the employer has done all in his power outside of discharging the men, to get them to wear them what are you going to do?

DR. JACKSON TAYLOR, Lukens Iron & Steel Company, Coatesville, Pa.: Mr. Chairman, is there any thing on the market, any glasses, that will prevent a man from getting a flash from a short circuit?

DR. POSEY: Mr. Chairman, I was shown in the last few days a goggle devised by Prof. Pfund, of Johns Hopkins University. The idea of this goggle is protection against heat and light rays; excessive amount of heat and excessive amount of light rays. The glass consists primarily of a gold reflecting surface covered over by a narrow layer of plate glass. This gold surface throws the heat back, reflecting the heat rays, and the light rays, so that they do not enter the eye.

So many glasses hold the heat and cause moisture on the glass and heat the eye Where the heat rays are stopped from entering the eye and the heat rays thrown back, that stops the excessive amount of heat and light from entering the eye. It seems to me, therefore, that it is an ideal goggle for one looking in at a heated surface. Regarding the splashes of metal, I believe that, as far as I know, there is no satisfactory goggle, but my acquaintance with those goggles is very much more limited than that of some gentlemen here.

CHAIRMAN PATTERSON: The discussion of the very admirable paper by Dr. Hatfield, on Tuberculosis as it Affects the Worker, will be taken up by Mr. A. P. Bowers, Vice President of the Pennsylvania Federation of Labor.

TUBERCULOSIS AS IT AFFECTS THE WORKER.

By A. P. BOWERS, Vice-President, Pennsylvania Federation of Labor, Reading, Pa.

Mr. BOWERS: Mr. Chairman, ladies and gentlemen, I don't know as I can add very much to what Dr. Hatfield has stated. I have no doubt that you are all aware that he is the Secretary of the Society for the Study of Prevention of Tuberculosis, and is in a position to get a great deal of information that we can not get. I am, in a small way, interested in this work in connection with the sanitorium in Berks county; that is, with the treatment of tuberculosis. Then again, as an official of a labor organization one of the problems that is constantly confronting us is the care of our members and their families while the member is away in the sanitorium and being treated. One of the things that experience has taught us that will help greatly to lessen the horrors of tuberculosis, is to teach the employes in many of the industries that prevention is worth more than cure, and that one of the things, or the principle things, to prevent tuberculosis are fresh air, pure and wholesome food, rest, and proper sanitary conditions in the home, and in the factory. I have been identified with the tobacco industry. In our industry the mortality rate is second highest. Our death rate will run about eight out of one hundred. We find that one of the principal causes of tuberculosis, as a general thing, is poor ventilation, or hot workshops. As Dr. Hatfield indicated, in the tobacco industry it is necessary to retain a certain amount of moisture in the room, so that the tobacco may be kept in a pliable state. We have urged upon manufacturers the installation of what is known as the vacuum system of ventilating, and I believe that if we can discover a system of ventilating

whereby the bad air can be taken out of the factory and fresh air be supplied we can gradually reduce the death rate in the cigar and tobacco industry.

Another serious question is that of proper housing. As a general thing the employes in the tobacco industry are poorly paid, and in the larger industrial centres you will find many families crowded into small tenements, where there is insufficient light, where there are insufficient bathing facilities and other causes that prevent cleanliness, and those people, you know, usually become infected. So that one of the things that I think we must consider before we can hope to cope with the disease among the lower paid industrial classes is the proper housing of these people. We have one case that I desire to cite. We had in our sanitorium a man, with a family of a wife and seven children. After his death, inside of a year, we had the wife and every child on the waiting list; four of them are at present at the sanitorium receiving treatment. Upon investigating conditions in the home we found the family crowded in very small apartments and with nothing to purify their home, or remove the cause of infection. The result is that the whole family became the victims of this disease.

In the matter of reducing the hours of labor: The labor organizations have in the last ten years very materially reduced the hours of labor, and in that way are benefiting the industrial workers.

We are very glad to note the interest that is being taken in this subject, because tuberculosis causes more deaths among the workers than any other one disease. We are coping with it as best we can with the information and knowledge that is at hand, and I am glad to say that the records of our organization show that by the intelligent application of correct methods we are gradually reducing the death rate. Look at the amount of money spent to eradicate tuberculosis! In 1905 the total amount of money spent by the different states and all forms of organization was about five million dollars; in 1915 the amount was over two hundred million dollars. The result was that in 1905 the death rate was one in eight, in 1915 it was one in ten. They said that it took three hundred years to eradicate leprosy in Europe and to-day it is practically unknown, except in a few of the southern countries. We hope at the rate we are going to be able to eradicate tuberculosis in the United States in less than one hundred years.

CHAIRMAN PATTERSON: The next paper on the program, and the last paper of the meeting, Some Hazards of the Chemical Industry and their Prevention, is one of very great importance. The war in Europe has brought home to America the fact that America was years behind in its chemical industry. Practically one hundred per cent. of the dyestuffs and many other of our chemicals, were received with the German stamp on them in the various factories and places where

they were consumed in our country. American ingenuity, American brains and American capital have all combined to solve the many problems produced by reason of the European conflagration, and no company in America has done more to solve these problems and at the same time to protect the worker than has the E. I. duPont deNemours and Company, and it is my pleasure and privilege to introduce to you Mr. L. A. DeBlois, who is in charge of the safety work of that Company, who will speak to us on some of the work that his Company and some of the other companies have done.

SOME HAZARDS OF THE CHEMICAL INDUSTRY AND THEIR PREVENTION.

By L. A. DeBLOIS, Engineering Department, Safety Division, E. I. duPont deNemours & Co., Wilmington, Delaware.

Mr. De BLOIS: Mr. Chairman, purposely avoiding discussion of the fire and explosion hazards which are naturally subjects of great importance to the manufacturer of explosives but are partially or wholly peculiar to this branch of the industry, I wish to bring before you certain phases of the accident prevention problem in which the chemical industry as a whole may be interested, prefacing my remarks, however, with the statement that my own experience in this work has been gained only in meeting those problems which have confronted E. I. duPont deNemours and Company; my experience therefore though involving the protection of some 50,000 pay roll employes is more or less limited in its field.

While it is not my object to dwell on the ordinary industrial hazards which are also common to the chemical industry and which are now well covered by a commonly accepted safety practice of railings, guards, etc., such as are set forth in the Safety Standards of the Department of Labor and Industry, I wish to emphasize one point in their relation to the subject at hand. The chemical trades do not as a rule attract the better class of labor, with the result that the men are often foreigners or are indifferent to safety practice. Moreover, they are not apt to be steady workers, and all this makes for difficulties in education and for accidents.

In the work itself, which has to do largely with materials in liquid form—often at high temperatures, frequently highly corrosive—we encounter numerous conditions of slipperiness, steam, vapors, and gases which may be directly contributory to accident. For these reasons I am inclined to believe that if we must err at all it should be on the side of overguarding and undue precaution rather than underguarding and lack of precaution.

It not unfrequently happens that the worst accidents in a chemical industry occur during repairs, for at this time the routine of operation is interrupted and unforseen contingencies arise, but as many of us know, repairs in a chemical plant are the daily rule rather than the exception, and by the frequency of them the hazard is often greatly increased.

Leaving the general dangers for the special, let us consider some of the possibilities of accident when liquids are blown by compressed air from a storage tank or a tankcar to an elevated storage tank and flow thence by gravity to a series of tanks below. We will assume that suitable precautions are taken to prevent an unsafe pressure of air from being applied to the tank or car. Incident to this it should be noted that a pressure reducing valve which operates satisfactorily when delivering considerable air, when called upon to maintain merely a reduced pressure within a closed tank, may through peculiarities in its design or through wear permit the building up of an excessive pressure within the tank, and this condition may require the installation of a pressure relief valve or a lead safety diaphragm.

If the liquid is being sent from a storage tank or from a tankcar the operator should have a suitably railed platform from which to make his connections and control his valves. If the liquid is acid of corrosive strength the wider this walkway is the better, in that it permits him to dodge back in case of a spurt from a leaky valve packing or a cracked valve, and for the same reason at each end of the walkway there should be a means of descent to the ground, preferably a stairway leading straight out, for he may be burned or blinded with acid and incapable of descending a ladder; also because in the latter case the liquid flowing along the platform might pour down the ladder over him.

As falls from the slippery top of a tankcar while straining on a Stillson wrench are frequent, the desirability of a counterweighted gangplank which can be let down on the top of the car may be indicated. The protection of such cars by the blue flag or target or by derailers may also be a matter of importance.

The control of the blowing operation is largely a question of local conditions, but the results of a possible mistake in the manipulation of the valves or of a misunderstood signal should be carefully considered. For example, a man about to don an air helmet, supplied from the compressed air mains, for the purpose of stopping an ammonia leak fortunately obeyed the rule to test the helmet before putting it on and discovered that the air was surcharged with strong acid. On investigation it was found that through a mistake, air pressure had been left on an acid tank which was provided with both an air inlet pipe for blowing and a submerged pipe for air agitation. The valve on the latter was leaky and when the air pressure in the mains

dropped as the result of an unusually heavy demand, acid was forced back into the system from the tank. Imagine the results of being encased in a helmet with the air inside filled with poisonous and corrosive acid, and the air outside unbreatheable with ammonia! A simple interlocking device between the air agitation valve and the tank blow-off valve corrected this condition.

If the receiver is an open tank or vat we frequently find the valve controlling the flow of liquid to it located close by. This may introduce the danger of burns or scalds in case of an overflow. In fact one frequently finds the steam and air controls of evaporating pans, airlifts and other devices too close for safety. Under regular operation perhaps no hazard may be introduced but in an emergency the attendant may risk his life or limb in an effort to close them. They should be placed where the operation of the process may be readily observed but not too close for safety.

Another and rather frequent error is that of placing a ladder or steps close to an open tank so that the condition of its contents can be observed; better a small platform with ladder or steps leading to it.

Again, in the provision of overflow pipes (which, by the way, are frequently omitted) mistakes are often made. The usual reasoning is that if the liquid enters the tank by a $1\frac{1}{2}''$ pipe a $2''$ pipe ought to be large enough to carry it off. But bear in mind that in admitting the liquid to the tank the pipe flows full and generally under considerable pressure, while the flow out through the overflow pipe is that due to the liquid overtopping it by a fraction of an inch or at most only a few inches and a vortex is generally formed which further reduces the flow. In brief, be generous in the size of the overflow pipe and see also that it will not back up liquid in any other overflow or vent which enters the same main from a lower level.

Blow-off and vent pipes should be so arranged that their discharge is not dangerous and that no one can pass under the drip that may result from the leakage or condensation of hot or corrosive liquids.

In the matter of valves our own experience indicates more accidents from leaky packing than from failure of the valve itself, though in some cases a lead apron carried over the sides and body of the valve and closely fitted around the valve stem is desirable protection for the operator. Earthenware plug cocks should be stayed to the tank or pipe line with proper bridles and the plugs should be chocked to prevent their accidental displacement. During repairs, valves should be locked in position, for which purpose we use a simple chain, padlock and danger sign, and, where men must enter tanks, pipes should be disconnected from them or blind gaskets inserted between the pipe flanges. This safeguards against the leaking valve, though an alternative but possibly less reliable arrangement is that of a bleeder

valve placed between twin valves in the line. If the bleeder is open and the twin valves closed there is little chance of trouble, especially if the valves are locked in position.

Much thought can be well spent on the arrangement of the piping in a chemical plant. My personal preference is to have the location of horizontal acid piping about 18″ above the floor, rather than under it. While this undoubtedly introduces a tripping hazard, which may be bad if the operator has to move quickly, it nevertheless places the piping in a better position for the inevitable repairs than if it were overhead. A leak is more readily detected and easily remedied, there is likely to be less confusion in handling a complicated system (as the pipes and valves are more readily recognized and are more quickly reached) and there is less danger from dripping acid. One of the most frequent causes of acid burns is the failure of pipe fitters to relieve properly the pressure in a line and drain it before disconnecting. Though constantly warned, they are apt to overlook this precaution or are prevented from exercising it on account of the arrangement of the system, but with the above floor piping they will encounter less risk from this cause than if the piping is overhead.

In case of repairs, requiring the removal of a length of pipe, the separation of the flanges of a flange union either in pipe lines or on the cleanout nozzles of acid tanks introduces some considerable risk as there may be a spurt of acid as the last bolts are loosened. One way of preventing this is to clamp the edges of the flanges together with a pair of U-shaped dogs driven over them or wedged in place. The bolts may then be removed and the dogs pried off from a safe distance by means of a long bar.

The cleaning or repairing of closed tanks is most hazardous when explosive, inflammable, or poisonous vapors are given off by their contents. To rid the tank of vapors, filling with water and emptying is resorted to in some cases, in others the tanks must be washed with alkali or thoroughly steamed out. No chances should be taken, and the whole operation should be under the control of an experienced foreman. Where the men must enter the tanks wearing an air or oxygen helmet, a life line should be used under the care of a watchful attendant. The use of helmets and life lines should not be optional with these men but should be enforced by the foreman in charge. Furthermore they should be properly trained in the use of such appliances.

In most chemical plants the protection of the eyes is a serious matter but in our experience no entirely satisfactory goggle has yet been devised. Added to difficulties from the destruction of the material of the goggle by acid fumes, etc., we encounter much trouble from steaming, which can be avoided only by sacrificing water-tight and drip proof qualities. Moreover, where the goggle rests against the

face profuse perspiration is induced and acid or chemical dust collecting here starts inflammation or skin eruptions. Under some conditions we are able to use a fibre face shield having a large opening glazed with cellulose acetate, the whole contrivance being held out from the face (to allow ample ventilation) by snap fasteners attached to the band of a woolen cap in such a way as to allow the shield to be swung back above the head when not needed.

In connection with eye injuries from acid, let me point out that a constant flowing bubbler not only provides drinking water under sanitary conditions but is a very quick and sure means of irrigating the eye. For the relief of more serious acid burns we provide shower baths supplied not through the customary ½ inch pipe but through a 1½ inch connection, the controlling valve being where possible quick opening and located at a standard height from the floor. These showers are painted a distinguishing color, are indicated by a colored light at night and are tested daily. They have undoubtedly saved many of our men from more serious and perhaps fatal acid burns.

In the foregoing I have been able to touch on only a few of the hazards that occur in the chemical industry. Needless to say there are countless others and in particular those resulting from the inhalation or absorption of noxious or toxic substances or gases which merited mention. While exhaust systems for the removal of vapor or dust and the avoidance of exposing these materials to the air in open containers, troughs, etc. will do much towards the prevention of poisoning and the promotion of health among the workers, the greatest factor is undoubtedly personal cleanliness. First, it is incumbent on the management and the foremen to acquaint the men with the nature of the substances with which they will come in contact and to explain why absolute cleanliness is necessary. Proper facilities must be provided for washing and bathing and their use made obligatory, the necessary time for this being allowed at the company's expense. However, bodily cleanliness may be of little value, if the working clothes are impregnated with poisonous substances, and provision should be made for having them cleansed periodically. Adequate storage space for them should of course be provided in such way that they can not contaminate their street clothing. Furthermore, it is highly desirable that a competent physician should maintain a close scrutiny of the men's physical condition, giving helpful advice on the maintenance of their health, and arranging for their temporary or permanent transfer to other and less exacting employment at the first signs of ill effects.

And here permit me to point out one of the great difficulties that the manager encounters in combating industrial poisoning—the bugbear of immunity. In the beginning many a man regarded the whole

safety movement as mollycoddling and was apt to look on the matter of taking risks as a personal prerogative and indicative of his manliness and hardihood. But now, I think, we have all to be profoundly thankful that men take a saner view of the accident prevention business. And the utter futility of unnecessary risk is beginning to appeal to them. Unfortunately, however, in meeting the industrial poisoning situation, which is newer and where the risk is less evident than in the case, for instance, of an open line shaft or an unguarded gear, we encounter the old spirit of fancied immunity from trouble, The man is healthy and "can stand most anything." Bill Smith may have to follow the rules because "Bill Smith never did have no backbone," but he in the pride of good health is the logical exception and has no cause for fear. This immunity idea is no class disease but a human failing to which we have all fallen heir and only education and patience can put an end to it.

Education and patience are after all the final answer to all the problems of how to safeguard the worker. As is the case with all industrial hazards, the great keynote of success in accident reduction in the chemical industry lies in the inculcation of the principles of safety in the minds of the men. Once their interest is aroused and their co-operation obtained, the work is no harder than in other and perhaps less inherently hazardous undertakings, but without their interest and co-operation the most elaborate safeguards and the most comprehensive rules will be of little avail.

CHAIRMAN PATTERSON: Commissioner Jackson has asked me to express to all who attended these sessions, the very deep appreciation of the Commonwealth of Pennsylvania, Governor Brumbaugh and himself, for the courtesy of you men in taking your time from the many demands which we know you have upon it, in coming here to join the State in its efforts to conserve the health and the lives of all who toil. A full copy of the proceedings of the three days' session will be printed by the Department, and every one is urged to register, because copies will be sent only to those whom we know are here. The hour is growing late, we will have some motion pictures and those of you who must catch trains, please have no hesitancy in leaving. In the meantime motion pictures will be shown, and I wish to express my personal appreciation of your courtesy and to say if you come here in February we shall promise you not only a warm welcome, but shall also try to give you a program which will at least present for your careful attention some of the modern problems which are going to be discussed before the Legislature. I thank you.

PERSONS IN ATTENDANCE AT THE FOURTH ANNUAL WELFARE AND EFFICIENCY CONFERENCE

Department of Labor and Industry,

November 21, 22 and 23, 1916.

Arble, E. F., Dr., ...Carrolltown, Pa.
Areford, G. Carl, ...Uniontown, Pa.
Auel, Carl B., ...Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.
Adams, Arthur M., M. D., ..Midvale Steel Co., Germantown, Pa.
Alberty, F. W., ...Royal Indemnity Co., New York City.
Alexander, E. G., M. D.,....Penna. Mfg. Company, Philadelphia, Pa.
Andrews, John B., Ph. D.,...American Assoc. for Labor Legislation, New York City.
Apgar, Albert A.,.....Frog & Switch Mfg. Co., Carlisle, Pa.
Apgar, C. S.,.....Armstrong Cork Co., Pittsburgh, Pa.
Arndt, Franklin F., M. D.,..Pennsylvania Coal Co., Scranton, Pa.
Allison, R. R.,.....Engineer Works, Union Switch & Signal Co., Swissvale, Pa.
Aillain, A.,.....Middletown Car Co., Middletown, Pa.
Abbott, R. B.,.....Supt. Hbg. Div. P. & R. Ry. Co., Phila., Pa.
Ashenfelter, C. M.,.....Middletown Car Co., Middletown, Pa.
Bailey, John,.....The Bell Telephone Co., Philadelphia, Pa.
Blatz, H. Dr.,.....W. J. Rainey Coke Co., Uniontown, Pa.
Bard, J. B.,.....Cumb. Valley R. R. Co., Chambersburg, Pa.
Bayley, A. W.,.....Carbondale, Pa.
Beitelman, L. J.,.....Atlas Portland Cement Co., Northampton, Pa.
Benner, Jacob W.,.....Inspector, Homestead Steel Co., Munhall, Pa.
Bernd, Carl M.,.....Harrisburg, Pa.
Betz, Henry,.....Asst. Road Foreman, Cumb. Valley R. R. Co., Chambersburg, Pa.
Bishop, Albert B.,.....Thompsontown, Pa.
Bliss, Geo. T.,.....Erie City Town Works, Erie, Pa.
Bollenbacher, Peter,.....Brewery Workmen's Union 22, 609 Wabash Bldg., Pittsburgh, Pa.
Bond, C. D.,.....Weaver Piano & Organ Co., York, Pa.
Brown, Ed. B.,.....Asst. Trainmaster, Cumb. Valley R. R. Co., Hagerstown, Md.
Brown, J. Stanford,.....Supervisor Labor, Safety, Welfare, The Carpenter Steel Company, Reading, Pa.
Barie, Valentine,.....International Molders' Union, Pittsburgh, Pa.
Beck, Edward O., ...Middletown Car Co., Middletown, Pa.
Bowersox, R. W.,.....B. of R. T. 682, Lewistown, Pa.
Brandt, H. E.,.....Middletown Car Co., Middletown, Pa.
Barron, C. A., M. D.,.....Quaker City Rubber Co., Philadelphia, Pa.
Blair, Walter A., M. D.,....Alan Wood Iron & Steel Co., Norristown, Pa.
Bowen, Albert, M. D.,..... Cluett, Peabody & Co., Inc., Rochester, N. Y.
Bragdon, George D.,.....General Accident Co., Philadelphia, Pa.

Brewer, J. W.,..... Frick Co., Waynesburg, Pa.
Brosius, H. H.,..... Rep., H. of R., Brookville, Pa.
Bricker, Mrs. John H.,..... Western Pa. Consumers League, Pittsburgh, Pa.
Buffington, Roy M.,..... Safety Inspector, P. R. R .Co., Philadelphia, Pa.
Beachman, Frederick,..... Scranton School District, Scranton, Pa.
Boner, C. C.,..... U. M. W. of A., Tamaqua, Pa.
Baily, W. E.,..... Lehigh & New England R. R. Examiner, Pen Argyl, Pa.
Banks, Charles T.,..... Safety Supervisor, Erie R. R. Co., New York City.
Brake, H. I.,..... Rep. of Electrician, C. V. R. R., Chambersburg, Pa.
Boston, Wm. J.,..... The Westinghouse Machine Co., East Pittsburgh, Pa.
Bowers, Henry C.,..... Byers Company, Columbia, Pa.
Benedict, F. L.,..... Elliott-Fisher Co., Harrisburg, Pa.
Bush, George,..... Middletown Car Co., Middletown, Pa.
Baumbach, Herman,..... Middletown Car Co., Middletown, Pa.
Broderick, John,..... Supervisor, Special Bureau B. & O. R. R., Baltimore, Md.
Botts, F. A.,..... Middletown Car Co., Middletown, Pa.
Barry, J. F.,..... Sharpsburg, Pa.
Baumback, H. P.,..... Middletown Car Co., Middletown, Pa.
Botts, D. Fred,..... Middletown Car Co., Middletown, Pa.
Booda, C. K.,..... Middletown Car Co., Middletown, Pa.
Boyer, W. B., ... Middletown Car Co., Middletown, Pa.
Bowman, Neal B.,..... Middletown Car Co., Middletown, Pa.
Beck, E. Roy.,..... Middletown Car Co., Middletown, Pa.
Baltz, S. A.,..... W. J. Rainey Coke Co., Uniontown, Pa.
Beck, E. L.,..... Middletown Car Co., Middletown, Pa.
Booser, B. K.,..... Middletown, Pa.
Brackin, Albert E.,..... Penna. R. R. Co., Berwyn, Pa.
Bryant, Hon. Lewis T.,..... Commissioner Dept. of Labor, Trenton, N. J.
Bowers, A. P.,..... Vice Pres., Pennsylvania Federation of Labor, Reading, Pa.
Callender, C. B.,..... Trafford, Pa.
Cameron, W. H.,..... Gen. Mgr. National Safety Council, Chicago, Ill.
Case, Geo. W.,..... Prof. of Sanitary Engineering, University of Pittsburgh, Pittsburgh, Pa.
Chick, W. E.,..... Bethlehem Steel Co., Steelton, Pa.
Collins, Edmund, Jr.,..... Lehigh Star Bedling Co., Allentown, Pa.
Cox, Edwin R.,..... The Atlantic Refining Co., Philadelphia, Pa.
Craimer, M. W.,..... Building Inspector, Altoona, Pa.
Cottam, J. A., Rev.,..... Beaver Meadow, Pa.
Cummings, Alexander,..... Local 260, United Mine Workers of American, Moon Run, Pa.
Curry, A. B.,..... The Tyler Tube & Pipe Co., Washington, D. C.
Campbell, John A., M. D.,.... Sweet Steel Co.,
Pine Iron Works Co.,
Lycoming Rubber Co.,
J. E. Diston & Co.,
838 Funston Ave., Williamsport, Pa.
Casselberry, R. C., M. D.,.... Baldwin Locomotive Works, Eddystone Ammun. Corp., Chester, Pa.
Coates, George M., M. D.,.... Wetherill & Brother, Philadelphia, Pa.

Codman, Chas. A. E., M. D.,Medical Society of State of Pa., Philadelphia, Pa.
Cohen, Joseph, M. D.,.....American Car & Foundry Co., Berwick, Pa.
Coover, Carson, M. D.,.....Harrisburg, Pa.
Coover, F. W., M. D.,.....Harrisburg, Pa.
Crothers, Geo. F., M. D.,....General Chemical Co.,
Sun Oil Co.,
Marcus Hook, Pa.
Cramer, W. B.,.....Carpenter, East Brady, Pa.
Crane, Arthur,.....P. R. R., Harrisburg, Pa.
Crow, Charles,.....Middletown Car Co., Middletown, Pa.
Caminetti, A.,.....Commissioner General of Immigration, Washington, D. C.
Chamberlain, Mrs. James I.,..Civic Club of Phila., Harrisburg, Pa.
Code, J. G.,.....Gen. Mgr. Wabash-Pittsburgh Terminal Ry. Co. & West Side Belt R. R. Co., Pittsburgh, Pa.
Carrow, Thos. H.,.....Safety Inspector, Ins. Dept. P. R. R., Phila., Pa.
Crist, J. E.,.....Middletown Car Co., Middletown, Pa.
Conrad, C. D.,.....Middletown Car Co., Middletown, Pa.
Chambers, L. W., Rev.,.....Kennard, Pa.
Cooperman, M. B., M. D.,....The Franklin Sugar Refining Co., Philadelphia, Pa.
Crow, W. H.,.....Middletown, Car Co., Middletown, Pa.
Condran, E. H...,.....Middletown, Car Co., Middletown, Pa.
Chandler, Lee L.,.....Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Covan, James O.,.....Middletown, Car Co., Middletown, Pa.
Cassel, Ira G.,.....Middletown, Car Co., Middletown, Pa.
Clauser, John,.....Middletown, Car Co., Middletown, Pa.
Darr, H. W.,.....Cambria Steel Co., Johnstown, Pa.
Daugherty, N. F.,.....Penna. Railroad Co., Philadelphia, Pa.
David, E. H.,.....Ridgway, Pa.
Davis, H. G.,.....D. L. & N. Coal Dept. Kingston, Pa.
Davis, R. B.,.....Carlisle, Pa.
Defenderfer, C. L.,.....Pottstown, Pa.
Derick, S. H.,.....B. of R. T., 42 Harrisburg, Pa.
Dillen, H. D.,.....Freeport, Pa.
Douglas, James B.,.....United Gas Improvement Co., 1401 Arch St., Philadelphia, Pa.
Dow, Marcus A.,.....General Safety Agent, New York Central Lines, New York City.
Doyle, Martin,.....Miner, Williamstown, Pa.
Drinker, Henry S.,.....President, Lehigh University, South Bethelehm, Pa.
Dailey, Gilbert L., M. D.,....Hbg. Pipe & Pipe Bending Co., Harrisburg, Pa.
Davis, J. H., M. D.,.....Worth Bros., Coatesville, Pa.
Douglas, James B.,.....U. G. I. Co., 1401 Arch St., Philadelphia, Pa.
Davis, Thomas,.....Natl. Board Member Dist. No. 1, U. M. W. of A., Nanticoke, Pa.
DeForest, J. E.,.....B. of R. Trainmen, 63, Youngwood, Pa.
Dickson, O. C., Jr.,.....Safety Inspector, P. R. R., Philadelphia, Pa.
Durborow, Charles F.,.....Middletown Car Co., Middletown, Pa.
Doty, H. M.,.....Reading Steel Casting Co., Reading Pa.
Davis, John,.....Lackawanna Coal Co., Scranton, Pa.
Davis, H. A.,.....International Typ. Union, Pittsburgh, Pa.
Day, B. Frank, ...Philadelphia Electric Co., Philadelphia, Pa
Davis, John F.,.....Builder, Frankford, Philadelphia, Pa.

Deblois, L. A.,.....Safety Dir. E. I. DuPont de Nemours Co., Wilmington, Del.
Doup, Charles,..... .....Middletown Car Co., Middletown, Pa.
Dubendorf, A.,.....Middletown Car Co., Middletown, Pa.
Delbaugh, J. Edward,.....Mine Worker, Shamokin, Pa.
Dodson, Jesse,.....Middletown Car Co., Middletown, Pa.
Dever, Roger J.,.....Weitzenhorn Building, Scranton, Pa.
Eales, Wm. P.,.....Asst. Supt., Travelers Ins. Co., Hartford, Conn.
Estes, W. L., Dr.,.....South Bethlehem, Pa.
Elam, F. H.,.....American Steel Co., McCormick Bldg., Chicago, Ill. (Plant located at Pitts-Sharon-Franklin).
Eaton, J. C.,.....Wilb Oil Works, Ltd., Warren, Pa.
Entwisle, Jos., ...Midvale Steel Co., Philadelphia, Pa.
Eichelberger, H. F.,.....Middletown Car Co., Middletown, Pa.
Ewing, Thomas,.....National Tube Co., Pittsburgh, Pa.
Eirley, G. D.,.....Middletown Car Co., Middletown, Pa.
Failing, Willis H.,.....Claims Atty., The Central R. R. Co. of N. J., Jersey City, N. J.
Fawcett, H. G.,.....National Tube Co., McKeesport, Pa.
Fennell, P. F.,.....Park Building, Pittsburgh, Pa.
Fickenscher, P. E.,.....Asst. Chief of Bureau of Workmen's Union 22, Harrisburg, Pa.
Fonda, Geo. T.,.....Safety Engineer, Bethlehem Steel Co., South Bethlehem, Pa.
Fosnot, Geo. N.,.....Cumb. Valley R. R. Co., Chambersburg, Pa.
Forster, H. W.,.....Independence Inspection Bureau, Philadelphia, Pa.
Fowler, David,.....U. M. W. of A., Scranton, Pa.
Freed, James A., Capt.,.....Carnegie Steel Co., Youngstown, Ohio.
Frere, H. B.,.....Maryland Casualty Co., Baltimore, Md.
Farber, W. D., M. D.,.....Lawrence Portland Cement Co., Northampton, Pa.
Fell, O. T.,.....Republic Iron and Steel Co., Youngstown, Pa.
Fisher, John M., M. D.,.....Phila. Co. Medical Society, Philadelphia, Pa.
Fisher, Judson C., M. D.,....Globe Indemnity Co., 45 William St., New York City.
Foltz, J. Clinton, M. D.,.....American Pulley Co., Philadelphia, Pa.
Forney, C. H.,.....1336 Derry St., Harrisburg, Pa.
Fralic, H. B., M. D.,.....Mt. Holly Springs, Pa.
Furlong., H. B.,.....McClintock Marshall Co., Pittsburgh, Pa.
Farquhar, A. B., ...A. B. Farquhar, Ltd., York, Pa.
Ferren, Robert O.,.....Brotherhood Loc. Engs., Wilkinsburg, Pa.
Fountain, N. L.,.....Sec. and Treas. State Legislative Bd. of Pa. B. of L. E., Philadelphia, Pa.
Fronk, Frank,.....Middletown Car Co., Middletown, Pa.
Firte, W. E.,.....Safety Eng., Midvale Steel Co., Philadelphia, Pa.
Frazier, Donald N.,.....Safety Engineer, Amer. Liability Ins. Co., Philadelphia, Pa.
Fisher, Wm.,.....A. B. Farquhar Co., Ltd., York, Pa.
Flaig, Christian, ...Foreman, Machine Shop, Middletown Car Co., Middletown, Pa.
Gallagher, John B.,.....Dist. No. I U. M. W. of A., 235 McLean St., Wilkes-Barre, Pa.
Gallagher, J. H., M. D.,....Steelton, Pa.
Gebhart, R. E.,.....Sec. Mfg. Assn., York, Pa.
Gehring, Geo. F.,.....Macbeth Evans Glass Co., Charleroi, Pa.

Gibbaney, G. E.,.....B. R. T., 174, Cresson, Pa.
Gleeson, W. F.,.....Lehigh R. R. Co., New York.
Goodspeed, M. C.,.....General Electric Co., Erie, Pa.
Gorman, George J.,.....1027 W. Stella St., Philadelphia, Pa.
Gilday, Peter,.....Aberfoyle Mfg. Co., Chester, Pa.
Graham, R. P.,.....Frog and Switch Mfg. Co., Carlisle, Pa.
Gnau, Percy J.,.....Geo. W. Gilbert Planing Mills., York, Pa.
Griffith, Martin E., M. D.,..Pittsburgh Steel Co., Monessen, Pa.
Gunnisen, Rolla, Mrs.,.....Girard, Pa.
Gallagher, James,.....Frog and Switch Mfg. Co., Carlisle, Pa.
Goup, J. W.,.....Middletown Car Co., Middletown, Pa.
Gramm, Rush, ...B. & O. R. R. Co., Philadelphia, Pa.
Grundon, Arthur,.....Middletown Car Co., Middletown, Pa.
Gustafon, C. D.,.....309 Portvine Ave., McKeesport, Pa.
Gunagan, R. H.,.....Fidelity and Casualty Co., New York City.
Gilmour, William B.,.....Ware Bros. Co., Publishers, Frankford, Philadelphia, Pa.
Gotshall, George,.....Middletown Car Co., Middletown, Pa.
Geist, James W.,.....The Lehigh and Wilkes-Barre Coal Co., 527 So. Franklin St., Wilkes-Barre, Pa.
Girton, A. B.,.....Middletown Car Co., Middletown, Pa.
Haltzel, Henry S.,.....Lehigh Star Bedding Co., Allentown, Pa.
Hare, Samuel ..B.,.....Altoona and Logan Valley Elec. R. R. Co., Altoona, Pa.
Harmer, H. B.,.....Philadelphia Electric Co., Philadelphia, Pa.
Hart, John J.,.....Iron City Trades Council, Pittsburgh, Pa.
Hart, W. J.,.....Safety Inspector, Jones & Laughlin, Steel Co., Pittsburgh, Pa.
Harrlan, R. B.,.....Swarthmore College, Swarthmore, Pa.
Harvey, J. M.,.....Columbia, Pa.
Hauffman, J. W.,.....Middletown Car Co., Middletown, Pa.
Haas, Louis J., Rabbi,.....Harrisburg, Pa.
Hazen, J. F.,.....Brotherhood R. R. Trainmen, 42 Harrisburg, Pa.
Heesman, W. L.,.....Travelers Ins. Co., Reading, Pa.
Hemphill, James,.....121 Kennedy Ave., Duquesne, Pa.
Henry, E. J.,.....The Atlantic Refining Co., Philadelphia, Pa.
Herbert, J. S.,.....Cambria Steel Co., Johnstown, Pa.
Hickok, L. E.,.....D. Wilcox Mfg. Co., Mechanicsburg, Pa.
House, Hiram,.....Middletown Car Co., Middletown, Pa.
Hoffman, Frederick L.,.....Prudential Insurance Co., Newark, N. J.
Holtz, Wilbur M.. M. D.,....Pittsburgh Railways Co., 435 6th Avenue, Pittsburgh, Pa.
Hummel, Wayne,.....Middletown Car Co., Middletown, Pa.
Hunt, E. B.,.....Penna. R. R. Co., Philadelphia, Pa.
Henry, C. P., M. D.,.....The Carpenter Steel Co., Reading, Pa.
Herbest, Thomas R., Jr.,....The Cons. Expended Metal Co., of Pittsburgh, 2200 Arch St., Philadelphia, Pa.
Hetrick, David Jos., M. D.,Dauphin Cigar Factory, Harrisburg, Pa.
Hileman, J. B., M. D,,.....P. R. R. Co. (Voluntary Relief Dept.), Harrisburg, Pa.
Hiller, Hiram W., M. D.,....Penna. Seaboard Co., Sun Oil Co., Suburban Gas Co., Chester, Pa.

Hoover, Percy D., M. D.,....Landis Tool Co., Waynesboro, Pa.
Herring, G. A.,.....2436 Reel St., Harrisburg, Pa.
Hamilton, Warren W.,.....W. C. Hamilton & Sons, Cynwyd, Pa.
Hickok, Mrs. M. H.,.....Harrisburg, Pa.
Hendricks, Charles,.....Middletown Car Co., Middletown, Pa.
Hinkel, Wm. H., M. D.,....Atlas Powder Co., Tamaqua, Pa.
Houser, C. A.,.....Middletown Car Co., Middletown, Pa.
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Hicks, T. G., Rev.,.....Methodist Convention, Ligonier, Pa.
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Hoffman, A. A.,.....Middletown Car Co., Middletown, Pa.
Himes, W. L.,.....Middletown Car Co., Middletown, Pa.
Herman, G. W.,.....Middletown Car Co., Middletown, Pa.
Hays, G. L., M. D.,.....National Tube Co., Pittsburgh, Pa.
Hayes, J. Agnew, M. D.,....United Gas Imp. Co., Philadelphia, Pa.
Hanagan, S. J.,.....Middletown Car Co., Middletown, Pa.
Highee, Wm. S.,.....Penna. Salt Mfg. Co., 170 S. Broad St., Philadelphia, Pa.
Hatfield, Chas. J., M. D.,....2008 Walnut St., Philadelphia, Pa.
Ingram, E. H., M. D.,.....Wm. Cramp & Sons Ship and Engine Bldg. Co., American Enginering Co., Philadelphia, Pa.
Irwin, George K.,.....Lukens Iron and Steel Co., Coatesville, Pa.
Jackson, W. L.,.....Frog and Switch Mfg. Co., Carlisle, Pa.
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Jeffries, W. W.,.....Bethlehem Steel Co., Steelton, Pa.
Julius, William R.,.....Semet Solvay Co., Harrisburg, Pa.
Jefferson, James, M. D.,.....Cambria Steel Co., Johnstown, Pa.
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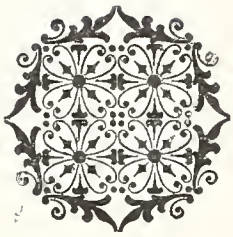

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JOHN PRICE JACKSON, Commissioner.

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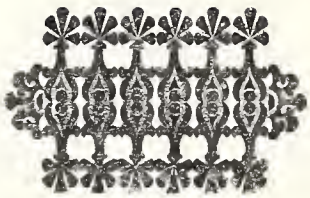

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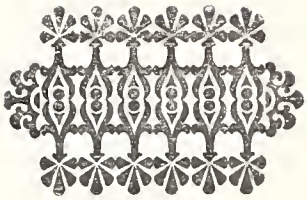

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Attorney General, Francis Shunk Brown, Counsel ex officio.
Counsel, Francis H. Bohlen, Philadelphia.
Associate Counsel, H. C. Hubler, Scranton.
Associate Counsel, Charles H. Young, Pittsburgh.

Would a shaft of sunlight feel "at home" in the cellar of your factory or store?

WORK OF THE BUREAU OF MEDIATION AND ARBITRATION AND DIFFICULTIES ENCOUNTERED IN SETTLEMENT OF LABOR DISPUTES AS OUTLINED BY COMMISSIONER JACKSON BEFORE THE COUNCIL OF THE PHILADELPHIA CHAMBER OF COMMERCE, JANUARY 9, 1917.

During the year 1916, there were 121 strikes settled in this Commonwealth through the instrumentality and aid of representatives of the Bureau of Mediation and Arbitration of the Department of Labor and Industry,—that is, an average of something over two strikes settled per week.

That number represents approximately two-thirds of all the labor differences with which the mediators came in contact. Some of the remaining third occurred toward the end of the year and were not settled until after the first of January; in others, the mediators gave their aid, but as their services were only one of a number of important elements that tended to a settlement, such strikes are not listed on our Department books as ended through the instrumentality of the mediators.

The Pennsylvania Department of Labor and Industry, of which the Mediation Bureau is a part, is primarily one for co-operative government service with employers and employes and is divided internally into several closely interrelated parts. The Bureau of Mediation and Arbitration is headed by a Chief, who, under the law, goes to places where labor differences occur and endeavors by mediation to bring the two sides to an agreement. If he fails in accomplishing this, he may offer the process of arbitration called for by law. This process consists of, first, the two parties' acceptance of arbitration; second, their agreement to abide by the result; third, the selection, by each, of an arbitrator; fourth, the selection of a third arbitrator by these two, or if they fail to select within a reasonable period, the automatic selection, under the terms of the law, of the Chief of the Bureau of Arbitration; fifth, the hearing of evidence; and sixth, the preparation and filing of the decree of the Board. In the work of this Bureau, it has been found unnecessary, usually, to offer the machinery of arbitration, as mediation has proved sufficient. Where mediation fails to prepare the way to a settlement, arbitration will ordinarily be rejected or prove at best but a means for temporary settlement and satisfaction. In the few

cases where arbitration has been used in the work of the Bureau, it has been found not much more than a type of mediation under a formal setting.

Causes of Disputes.

We have met with varied causes of strikes. Wages are, naturally, the always present, and frequently predominant cause of labor disputes. Likewise, an almost equal cause of trouble is the hours of labor. The employer may, with reduced hours, see the heavy "overhead" of his plant going on undiminished with a smaller proportion of the twenty-four hours being available for the output, while the employe may see the workers in other factories working shorter hours.

Rapid turnover of labor is another prolific breeder of conditions which cause trouble. A concern that newly employs, during a year, from one to several times as many workers as it has at any time on its pay roll, shoulders a burden of inexperience, poor production, lack of proper understanding of the attitude of the officials in charge, and small personal interest in the plant's welfare, that is expensive and disheartening.

Combined with the problem of labor turnover is that of discharge. It is common to permit lower officials, even petty foremen, to discharge outright, with but little, if any, reference to higher authority. This practice tends not only to increase the turnover, but in addition now and then results in ill-considered and unjust discharges which form a righteous breeding ground for discontent.

In another way the foreman may be the weak spot. If he happens to be of more or less brutal character, is overly ambitious, and, further, is judged, as is common, by the output of his division, he may so harshly drive those under him as to cause eventually a bitterness that far surpasses his value as a producer. I have seen a whole army of workmen in a great plant gradually worked up to the striking point by the inhumanity of two or three ignorant, petty foremen who had but a handful of workmen under them.

The selfish labor man is, like the selfish foreman or under official, an occasional source of trouble. Luckily, for industry, men in either of these capacities who are seriously unreasonable and unjust are not of frequent occurrence. The labor men themselves, or the high officials of their organizations, when they are organized, should without hesitation eliminate the former, and the high officials of the corporations should eliminate the latter. Indeed, I have more than once seen irresponsible labor men eliminated by those of higher power, and I have seen, likewise, unjust industrial officials shorn

of their power by their superiors. Where these two excrescences appear they are bound to breed trouble and are not to be taken or considered as the rule. The average labor man and the average industrial official is an honest, decent man subject to reason and he should be dealt with on that basis.

Breaking of employment contracts is a more or less serious producer of labor disturbances. Here again, in spite of the more or less prevalent belief to the contrary, this cause is an exception rather than the rule. Undoubtedly, now and then, labor contracts are broken, but also, now and then, other business contracts are broken. This is to be regretted, but I believe conditions are improving to such an extent that there is continually less tendency for trouble of this character. I have known of many labor contracts to be carried out to the serious detriment of those affected, just as I have known many business contracts to be carried out in spite of the loss entailed.

"Nothing to Mediate."

Probably the most stubborn source of trouble to be dealt with in settling of strikes is the non-recognition of labor organizations accompanied by the statement that "there is nothing to mediate or arbitrate." This includes the general principle that each employe must be dealt with individually and opposes the principle of collective bargaining. I have spoken generally of labor as organized. It may be contended that all workers are not "organized" in the common acceptance of the term in present day industrial parlance, but, is there ever a labor dispute involving a number of employes where they are not immediately solidified into a virtual organization by their common purpose, or, in other words organized to a degree, whether their unit of organization be simply a sporadic growth or a branch of the state or national bodies of organized labor?

Another source of irritation which frequently rouses employes to the point of striking is the "spy system." I have frequently come in contact with cases where the employers knew every move of their employes and the actions of their committees as soon as they were taken. In other words the "spy system" was completely effective. There are other elements which cause friction, which I will not take time to mention here. However, poorly constructed and overcrowded tenements under control of employing companies, bad factory sanitation and similar conditions are among these other elements.

Cure Depends on Individual Conditions.

The curative agencies to remove the tendency to serious labor trouble must be determined largely by the conditions dominating each individual case, though there are certain correctives, more or less widely applicable, which are worth consideration. The United States Government found it essential to have a department created for the army which could openly examine and inspect every feature of the organization and report to the highest officials. Before this new arm was added, much friction existed which seemed ineradicable. With the new supervisory inspection arm, the great bulk of the difficulty heretofore existing, has been wiped out. Many industrial corporations are following in a more or less modified form a similar method. This method makes it possible for the chief to discover promptly if there are sore spots unreported to him.

The reduction of turnover of labor and consequent increase in the average length of employment may well be attempted where the turnover is now large. One establishment in the West, a few years ago, employed fifty thousand new men in one year, although its total normal enrollment was between twenty-five and thirty thousand. By making a study of the conditions of employment and discharge that company reduced the leaving or discharge of its old employes to from ten to twelve thousand in a period of three years. A large branch of one of our largest manufacturing corporations, located in New England, has had equally good results through the installation of an organization for carefully supervising employment and discharge and the conditions under which the employes work. Both concerns have found their plans profitable.

The question of employment in many cases should be given much more full consideration; a man's fitness for his work should be made more of a scientific study. In the same way, his discharge may properly be a matter for recommendation by the petty officer to the proper supervisory power. This supervisory power may often find it well worth while to transfer the employe to another Department rather than to discharge him, and may find it possible to eliminate discharges which are not justifiable in the minds of fellow workers.

Collective Bargaining.

Whether the labor of a plant is organized or unorganized, the trend today is strongly toward collective bargaining and the making of trade agreements. Experience as a whole seems to indicate the wisdom of this method of working out the problem between labor and capital. As I said before, once in a while agreements are broken

just as other business contracts are broken, but on the other hand, working men as a whole are as honorable and square dealing as are other people. The right of the men to demand collective bargaining. or the wisdom of employers granting it, is not only justified upon the basis of such experience as is available, but is based upon a very reasonable interpretation of the principles of justice. By law, we permit and encourage men to pool their capital into a single organization or corporation in order that it may have greater power of production. In like manner, the working man who must contend with the paid agent of such aggregations of capital naturally feels that justice demands that he shall be permitted to organize with his fellows into a powerful unit and employ agents for forwarding his interest. Both in this country and abroad there have been many trade agreements drawn up in organized and unorganized businesses where excellent results have been obtained. In one great industry in western Pennsylvania, involving tens of thousands of workers, were it not for the trade agreements there would be, with almost certainty, continuous bickering, strikes, lockouts, or other troubles. In place thereof, comparative peace has reigned.

Establish Shop Committees.

One of the most useful methods for enabling officials and men to comprehend each other's points of view and purposes is to establish internal organizations in the form of general committees and departmental committees, composed of both officials and men, whose duty it is to study the problems of accident reduction, the economy of production, labor conditions, plant methods and their factors. In many establishments, very much better relations have grown up after the establishments of such internal systems than before existed. Such meeting together upon the problem of the plant and its labor, in which after all, all are equally interested, cannot fail to wipe away misunderstandings and doubts. At the same time, such influences tend enormously toward improving the conditions of operation with resultant improved plant prosperity.

The "spy system" to my mind is most undesirable. There is nothing which the American citizen, whether he be the lowest paid day laborer or the mightiest corporation president, will more seriously resent then to be spied upon. Therefore, the "spy system" is by its very nature a breeder of trouble and bitterness. The establishment of a suitable supervisory organization reporting to the general manager or president, which is frankly and openly established for the purpose of obtaining the facts, will accomplish much greater good than any organization of spys and if manned with the proper kind

of people, will encourage frankness and bring to those in control true information as to conditions from one end of the plant to the other.

Housing and Recreation.

The question of reasonably decent housing for employes at rents commensurate with their incomes is also worthy of consideration. No group of employes compelled to live below reasonable standards of American life can remain in a satisfied and contented state of mind. Moreover, there are other matters related to the general life of the people of an industry which may be developed to great advantage. Thus many plants have found it possible to arrange so that their employes obtain in one way or another a direct interest in the plant. It would be well indeed, in many cases, if those so interested might even be represented on the Board of Directors. It is desirable that care be given that opportunities for reasonable and proper relaxation and enjoyment of life are offered and that there are chances for those who are at the bottom to advance upon merit and for all to make savings and purchases of property. A distinct caution must be given, however, in the matter of all such welfare agencies. We will not, as Americans, stand patronizing or paternalism. Therefore, such movements as these should be directed by all and not by the officials alone.

One manager reported to me that he had built a fine recreation house for his people but they preferred to eat their lunches on railway ties, outside, to entering the building, and never used it for any of the purposes for which it was designed. I discovered upon investigation that this manager was endeavoring to cram the enjoyments of his people down their throats and, in addition, was charging them fairly good fees for the privilege. In another plant, however, in our capital city, where the turnover of labor was great, and the difficulty of obtaining skilled labor was greater, a system of making the people comfortable was developed by the people themselves with the co-operation of officials. This resulted in a very much reduced loss of employes and turnover of labor. Furthermore, the plant has become so popular that there is now always a waiting list of old employes, who have had to leave for one reason or another, and who desire to come back. The expense of breaking in new employes has been practically eliminated. The prosperity of the company has increased to such an extent that it has been possible to improve the pay of employes and in every way make the conditions more desirable. In other words, both employers and employes find the new conditions more profitable financially and much pleasanter.

I have not gone into any detail as to how to reduce causes of labor trouble to a minimum, but have merely pointed out a broad suggestion here and there. The subject is a large one. I might have devoted my whole time to the discussion of suggestions to which I have given but a line, or to others which I have not even mentioned.

New Conditions Have Developed.

The conditions under which we are now living have been of gradual development with the growth of our country. We began with the small shop where the employer and the employe were personally acquainted and the markets were largely confined to small areas. From this we advanced to the larger corporations in which the employers were stockholders who employed salaried managers to deal with the employes. We reached the point where it was deemed essential in order to keep up the old economic theory of competition to pass the Sherman and other laws to prevent combinations from fixing prices. We have gone on still further to greater combinations of capital and concentrated masses of employes and to a greater world's trade, where we have outgrown even the Sherman Law and require some new rules under which we can so combine that our great united force will be available to aid us in placing our products throughout the world as well as in our own country with economy and profit. At the same time from the small owner of his plant and his employe arguing out their differences in person, through the period of small corporations, we have reached the time of the great combinations both the individual worker and the individual stockholder are more or less submerged in the enormous size of the new undertaking as a whole. The need, therefore, of new methods in dealing with labor are apparent. In Australia, New Zealand, Canada, Colorado, and some other places attempts have been made to meet these new conditions by means of enforced arbitration or at least enforced investigation carried on under the power of the Government. Although some material success has been obtained, particularly in New Zealand, it has been found that such attempts do not represent a satisfactory solution of the problem. New Zealand, the most typical example, is a small agricultural community and has comparatively small industries. During the early period of the trial, prices and wages were continually rising on account of natural conditions and therefore but little difficulty was experienced. When, however, a point had been reached where this natural rising of wages no longer existed, the system, in spite of powerful Government backing, showed itself to be waterlogged and unworkable to

the extent which its originators had promised. Such experiences as we have had so far, would lead to the conclusion that any attempt on the part of the Government to coerce the workingman to work, or to take away from him the right to strike at the moment he thinks a strike will be most fruitful, will be difficult to develop and to put into action. Apparently, from the evidence at hand, the trade agreements worked out between employers and the men themselves in much the same manner as a business agreement is worked out between two groups of business men combined with careful handling of the subjects of employment and discharge, plans whereby each man will have reason to take a personal interest in the concern and good conditions of labor and living seem to point in this direction as the most satisfactory solution of the problem.

ONE OF THE MANY RESULTS OF THE WORK OF THE BUREAU OF MEDIATION AND ARBITRATION.

The following reprint of a news story in the Philadelphia Public Ledger of February 18, 1917, presents the methods by which one strike of 1,000 employes was settled in Philadelphia:

> What representatives of the Federal and State boards of industrial mediation say is a model working basis for the adjustment of like nature was signed yesterday afternoon, settling the strike of 1,000 employes of the shirtmaking trade, who have been out of the shops about five weeks.
>
> The agreement is the result of study on the part of John Price Jackson, chief of the State Department of Labor and Industry; Patrick Gilday, mediator of that board; James A. Steese, chief clerk; J. J. Coffey, supervising inspector, and Clifton Reeves, of the Department of Labor, Washington; officials of the Association of Shirt Manufacturers of Philadelphia and representatives of Shirtmakers' Union, Local No. 153, United Garment Workers of America.
>
> Its chief point of excellence, according to its originators, is in the fact that it makes provisions for a kind of protocol during a dispute between employers and employes, affording a working basis for the adjustment of those differences without hampering work or resulting in a strike.
>
> The crux of the new situation is found in the agreement between employers and employes to have in each factory a "shop committee," consisting entirely of employes of the concern, three in number, selected by the employes themselves, to whom grievances are to be referred in case of failure to come to an agreement first with the shop foreman on the matter. In case the shop committee and the employing firm should fail to come to an agreement, the dispute is to be submitted to an arbitration board of three members, consisting of one employer, one employe and the third member to be selected by the other two. The decision of the board is to be final.
>
> Mr. Steese and Mr. Reeves in speaking of the strike settlement last night said that both the State and Federal Departments of Labor had reason to feel that something out of the ordinary had been accomplished, especially as the dispute was a difficult and trying one to all parties from a number of angles. When the agreement had been completed it was quickly signed by all parties, who met in the local offices of the Department of Labor and Industry.

SAFETY IN SCAFFOLDING CONSTRUCTION.

By ELMER SPAHR, President, Pennsylvania State Conference of The Bricklayers, Masons and Plasterers International Union.

Little has been written concerning scaffolds with reference to safety and efficiency, considering the wide use of scaffolds and that many accidents are caused by faulty construction or over-loading.

When it is considered that no building can be constructed without the use of a scaffold, of some form or other, and that the men employed at the building trades perform nearly all of their labor on a scaffold, there should obviously be much thought given to careful construction.

The fact that scaffolds are merely temporary affairs, to be used only for a short time, should not preclude the idea that they should be as carefully planned as the building itself. In most cases the planning and building of scaffolds are usually done with the easy removal of the scaffold after it has served its purpose as the principal object. On this account many minor and often disastrous accidents have occurred.

One must realize that the mechanic cannot render efficient service while working on a staging that is weak or narrow or where the footing is very uneven, because under such conditions his brain is crowded with thoughts concerning his safety. This makes it impossible for him to concentrate his attention on the work he is performing.

With the exception of creating a few patented scaffolding devices, safety engineers have given this matter very little attention, although other lines of industry have received careful thought and planning to prevent the worker from injuring himself or being injured while engaged at his daily labor.

Unlike many of the other victims of industrial accidents, the workman injured from a scaffold is in no way responsible for the accident, as the scaffold is usually erected by another workman who does not intend to work from it, but who does intend to wreck it when it has served its purpose. Personal observation has demonstrated that seldom is only one person injured in the collapse of a scaffold, but frequently several, and instances of six and of ten men have been known to go down in a scaffold fall. A single collapse has been known to result in the deaths of several men.

The bricklayers or masons, for instance, when ordered upon a scaffold by their foreman, assume that the superintendent has provided for their safety, when it may be that the person who erected the scaffold did not consider the weight of numbers of bricks, hods of mortar and cement, and the additional live load of mechanics and their helpers. The resultant stress may be too great for an upright, a ledger, or perhaps a putlog which breaks, taking a whole section or more, precipitating the men and the mass of material to the ground below. One can readily make an estimate of the result in death and injuries, depending on the distance of the fall.

The object of this article is to call the attention of builders and others in the allied industries to the seriousness of the accidents due to faulty scaffolds and to offer suggestions to prevent them.

While it is true that in modern construction, each building presents an individual problem of scaffolding, there are many suggestions that can be considered to advantage in the erection of all scaffolds. The most widely used scaffold for masons is built with "horses" in their various forms. The stiff-legged "horse" is most desirable. As there is no necessity for nailing braces, it is easily constructed and can be removed without the usual waste of broken braces. However, as such scaffolds are somewhat bulky, they are expensive to move from one operation to another, so that some contractors use a "horse" with hinges, fastening the legs to the putlog or cross-piece so that the "horse" can be folded, thus occupying less space when loaded on a car or truck. When this style of "horse" is used, it should always be toe-nailed to the floor, as a laborer accidentally striking a leg with a barrow may wreck a section of the scaffold.

Another form used is the square, made from two pieces of 2″ x 4″ x 5′ for the uprights with two pieces 1″ x 6″ x 4′ 6″ in length for the top and bottom. This makes a good scaffold when properly braced. The practice of driving nails only part way and bending them over when fastening braces on this kind of scaffold has been the cause of many minor accidents, because, frequently, in trying to climb on the scaffolds, workmen may pull the braces loose, causing backward falls which often result in injuries to the spine or head. Again, the sudden removal of a brace in this manner sometimes causes the collapse of a section of scaffolding with more serious results.

As this form of scaffold is only profitable and convenient on the inside of buildings, or for a short distance on the outside, the pole scaffold is used for greater heights. The pole scaffold is responsible for more serious accidents than all the other forms of scaffolds com-

bined. It is used on the outside of buildings to a height of five or six stories, when there is no steel frame in the structure, and it is often subjected to great weight. For this reason great care should be used in its planning and construction. On four-story buildings the poles should be of selected stock 3″ x 4″ straight, free from bad knots and other imperfections, sawed square at both ends, so that there may be a proper footing and that succeeding pieces may have a good bearing when spliced. The poles should have a good footing on the ground and be secured at the bottom.

As conditions vary greatly with each operation, and often on the same operation, detailed advice can hardly be given as to the method of fixing a pole at the bottom, but the practice of resting and securing them to a sill is a method that can be used in many instances to a good advantage, where the surface is soft or uneven; or, on sidewalks, on roofs of adjacent buildings, and in almost every condition encountered.

When one considers that wagons are likely to be backed against an upright, or that they can be struck by the end of a beam, or that some teamster may unload lumber against the scaffold, it will be realized that it is necessary to make the bottoms doubly secure.

The ledger, or horizontal stringer, is another important factor in this scaffold, and the size should be governed by the weight it must bear.

When a ledger is nailed to a pole, a pole should never be left until the required number of nails (usually eight 10-penny nails) have been driven into the pole. Numerous accidents have been caused by a workman driving one nail into a ledger, leaving it to secure the other end and then forgetting to return and properly secure the first end. It is preferable to nail the ledger on the inside of the pole, for several reasons. It is more convenient to nail when standing on the platform, the nails being always in plain view; there is no obstruction on the outside of the pole to interfere with the braces being nailed directly to the poles; also, the shorter span for the putlog makes for safety.

The distance between the ledgers is governed by the work to be performed on the scaffold. For bricklaying and masonry, the ledgers are usually spaced five feet from top to top. Nailing a cleat under the ledger is a simple plan that is strongly recommended for safety.

In placing the putlogs, they should have at least four inches hold on the wall and should project sufficiently over the ledger to give good bearing, cut not less than six inches. The stock should be at least three inches by four inches and free from knots and placed

narrow side up. Very recently in an eastern city, two men were seriously injured by a frozen knot in a putlog breaking. It is impossible to use too much care in selecting good putlogs and in spacing them properly.

In placing the plank for the platform, which is usually four feet wide, care should be used that the plank rests on all the putlogs, so that an even distribution of weight will be obtained. Frequently, it is necessary to nail a furrowing strip to the top of a putlog to bring it to the proper height on account of the overlap of the plank. A foot board should be nailed to the outside of the platform to prevent material falling on passersby or workmen below and a guard rail should be at a height of about three feet six inches from the platform for the safety of the workman on the scaffold.

The bracing of this form of scaffold should receive every attention, and as frequently as possible, braces should be nailed to the floors of the building, through the windows, to prevent the scaffolding from pulling away from the building.

The poles should be inspected frequently at the bottom to ascertain whether they have been displaced from their foundation or whether they are sinking into the ground.

The suspended scaffold is a comparatively recent invention, and is used only on buildings having a concrete or steel skeleton, with a height over five stories. As the name implies, the platform is suspended from above, usually on steel cables fastened to a thrust-out or outrigger, on the roof or some floor above the point where construction or bricklaying is being done.

Not many accidents have been reported due to the breaking of this form of scaffold. On the other hand accidents may occur on these scaffolds due to the lack of safety precautions. As these scaffolds are nearly always used for bricklaying or terra cotta setting, it is necessary to have a foot-board and guard-rail with a wire netting fastened between the toe boards to prevent tools and fragments of material from falling to the ground. In some instances these safety measures were not employed, tools of various descriptions, bricks and other material fell causing injuries and resulting in damage suits.

To protect the men on a scaffold from objects falling from above, a roof should be constructed directly over them. This can be done where the overhead drum is used, by clamping a 2″ x 4″ putlog on the cable and laying inch boards. Where the drum is on the platform, the machines are provided with uprights to support the roof or covering. On some buildings planks were placed on the outriggers, in some instances six stories above the workmen, and afforded no protection whatever.

Care should be taken in lashing the scaffold to the building, so that it will not move away when the workman pushes against the wall. This sometimes happens when putting sills, lintels and terra cotta in place, causing the workman to lose his balance and fall between the scaffold and the building.

As it is customary to stock this scaffold with material after the masons or bricklayers leave in the evening, care should be used not to overload. An instance of a scaffold being overloaded is known where the cable outriggers and platform stood the strain, but when the bricklayers came on the scaffold in the morning, the roof beams upon which the outriggers rested, gave way and only by an act of Providence was a disastrous accident avoided.

The high cost of lumber, the scarcity of workmen and the increase wage have all had a tendency to make for insecure scaffolds.

No matter what kind of scaffold is being built, a plank should never project more than a foot beyond a support unless a guard-rail is placed to prevent the workmen from walking on the unsupported platform and receiving a fall.

When the employer realizes the loss, not only to the workman, but to himself in material, and in time while constructing a broken scaffold; when he realizes the fact that he is responsible in a measure for someone being a cripple; and when he also realizes that a workman can only deliver the maximum amount of service when he is positive that the scaffold upon which he stands is secure, then will there always be secure scaffolds. If "Speed at any price" is to be the motto, there will be scaffold accidents.

REASONS WHY EMPLOYERS SHOULD POST CONSPICUOUSLY SCHEDULES OF HOURS FOR FEMALE EMPLOYES.

The Legislature of 1913 followed the lead of a number of the other states of the Union by passing a law limiting the hours of labor for women and girls to fifty-four hours in one week and ten hours in one day. This law applies to all females in the Commonwealth working for compensation, except to those employed in private homes, in farming, or to nurses in hospitals.

The enforcement of this law, delegated to the Department of Labor and Industry, has been, for the past three years, energetically pursued. Nevertheless prosecutions continue to be made for its violation. Whether these violations are the result of ignorance, an excuse so often offered; or whether they are the result of wilful intent to disobey the law is often a matter difficult to determine.

This act known familiarly as the Woman's Law, contains a number of provisions for the safety, health, and comfort of women. In order to bring clearly before the employer this matter of the hours for labor, the portion relating to the enforcement of the provision respecting this point is quoted in full:

"Section 13. Every person employing or permitting any female to work in any establishment shall keep posted in a conspicuous place in the room where such female shall be employed or permitted to work, a printed abstract of the provisions of this act, and a schedule of the hours of labor of such female: Provided, That when any female shall be employed or permitted to work in more than one room in any establishment, the aforesaid abstract and schedule shall be required in only one of the said rooms. If any female shall be employed or permitted to work in connection with any establishment, but not in such establishment, the aforesaid abstract and schedule shall be kept posted in a conspicuous place in the office of such establishment.

"The schedule of hours of labor herein required shall contain the name of the female employed or permitted to work, the maximum number of hours such female shall be required or permitted to work on each day of the week, with the total for the week, the hours of commencing and stopping work, and the hours when the time allowed for meals shall begin and end for each day of the week. Such female may begin work after the time for beginning, and stop before the time for ending work, stated in such schedule; but she shall not otherwise be employed or permitted to work in, or in connection with, any establishment, except as stated in such schedule.

"The Commissioner of Labor and Industry shall prepare the abstract of the provisions of this act, and a form for the schedule of hours of labor required by this section. Copies of such abstract and such form shall be printed, in accordance with the laws of this Commonwealth regulating printing and publishing, under the supervision of the Superintendent of Public Printing and Binding, and the Commissioner of Labor and Industry shall supply the same, upon application, to all persons required to post the abstract and schedule aforesaid."

As noted in the last paragraph, both these forms may be obtained upon application to the Commissioner of Labor and Industry. The posting of the abstract of the Law entails no great amount of labor on the part of the employer. The filling out of the schedule of the hours for labor, on the other hand, requires not only time and care, but also continual attention, for names must be added or removed each time a new female employe is given work or an old one dropped.

The schedule has been drafted for adaptability to different classes of establishments in two forms.

Form I-14 for factories and mercantile establishments.

Form I-14

N. B.—POST IN CONSPICUOUS PLACE.

PENNSYLVANIA

DEPARTMENT OF LABOR AND INDUSTRY

SCHEDULE OF HOURS OF LABOR FOR FEMALE EMPLOYES.

Day and Night.

In compliance with section 13 of an Act of Assembly, approved July 25, 1913, and effective November 1, 1913, is posted the following list of names, ages, and hours of labor of female employes in this establishment.

.....
(Name of Employer.)

.....
(Street and No.)

.....
(Town or City)

Date,.....191

Employe's Name	Over or Under 21	Week Day or Sat.	Time Starting A. M.-P. M.	Time Stopping for Lunch M.-N.	Time Resuming P. M.-A. M.	Supper Period	Time Stopping P. M.-A. M.	Total No. Hours for Day-Night	Total No. Hours for Week
		Wk. Day				From			
		Sat.				To			
		Wk. Day				From			
		Sat.				To			
		W.				From			
		S.				To			

When a number of employes work the same hours, only one such schedule need be shown for each such group.—Employes between 14 and 16 need not be shown.—In second column, over 21 may be indicated by "O," under 21 by "U."

Form I-14-A for hotels, restaurants and similar establishments requiring three periods of work daily.

Form 1-14-A.

This schedule must be posted in a conspicuous place, with an abstract of the female labor law. Approved July 25, 1913. Effective November 1, 1913.

PENNSYLVANIA

DEPARTMENT OF LABOR AND INDUSTRY

SCHEDULE OF HOURS FOR FEMALE EMPLOYES.

Showing Periods on Duty.

Name of employer..... Date.....

Street and Number.....City or Town.....

This schedule must be kept up to date and correct, both as to names and hours. If, for any reason, the schedule is changed for any one day, it must be adjusted during the week. This schedule should be framed under glass, so that it can be readily removed for correction. The employer is responsible for making out, posting and maintaining the schedule and abstract.

Name of Employe	Over or Under 21	Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Total Hours for Week
		From	To	From	To	From	To	From	To	From	To	From	To	From	To	

Where several employes work the same hours, they may be grouped. "O" may be used to indicate over 21, "U" for under 21. Blank Schedules and Abstracts may be obtained from the Department of Labor and Industry, Harrisburg, Pa. Order by Form Number.

Many employers have found when first attempting to secure the data for this schedule that some women have strongly objected to answering questions concerning their age. With the exception of telephone operators over eighteen years of age, the law prohibits females under twenty-one years from being employed before six o'clock in the morning or after nine o'clock at night. An explanation of this portion of the law shows the women at once that inquiry on this point is a duty of the employer, not merely a means of satisfying his curiosity, and the information is then given willingly.

The spaces on the forms, intended for the recording of the time of beginning and the time of stopping work are large enough to hold easily three sets of figures. In most instances not more than two sets are required, but in cases in which two rest periods or lunch periods are allowed three records of hours are necessary. This seldom occurs every day, but many mercantile establishments which close at five or at six o'clock on five days of the week, on the sixth day remain open until nine o'clock. Such procedure necessitates a break in the work for two meals and these times must be scheduled

It is well to recall in this connection that this same Woman's Law stipulates that no female shall be permitted to work for more than six hours continuously without an interval of at least forty-five minutes except that when she is employed for less than eight hours in one day this rest period may be reduced to not less than thirty minutes. When the law first went into effect this portion relating to the hours of labor caused considerable misunderstanding but it is now almost universally known that the ten hour day shall be made up entirely of working time and that the rest period of lunch time is not included as a part of the ten hours.

Aside from the fact that the matter of posting the schedule is a requirement of the law, such posting is an advantage to the employer. It is one of the duties of the inspectors of this Department to see that this law is enforced. If a schedule were not posted it would be necessary for the inspector to obtain the information, which it is supposed to supply, in some other way. A call for this information by the inspector on his visit would very frequently be most inconvenient to the employer, and a great deal more time would be spent in compiling such data than would be required if the matter of keeping the schedule up to date were entrusted to one person who would recognize it as a routine duty to be performed regularly but at a time that suited his convenience.

A neglect of this duty is, however, more than an inconvenience to the employer, for failure to post this schedule properly filled in has frequently been a cause for prosecution instituted by this Department. Conviction of a violation of this portion of the law carries with it for the first offense a fine of not less than twenty-five ($25.00) dollars or more than fifty ($50.00) dollars; for a second or subsequent offense the fine is not less than fifty ($50.00) dollars or more than two hundred ($200.00) dollars, or imprisonment for not more than sixty days, or both at the discretion of the court.

In order to save himself annoyance, the employer should see that these schedules, properly filled out, are posted in prominent places in the rooms in which they are required, as stated in Section 13. quoted above.

In places where large numbers of women are employed or where there is a frequent change in the hours of employment the employer should constantly keep on hand a plentiful supply of blank forms. These may be obtained upon application to the Department of Labor and Industry. Requests for these blank schedules can be filled more promptly if care is always used to order them as Form I-14 for factories or mercantile establishments and Form I-14-A for hotels, restaurants and similar establishments requiring three periods of work daily.

Aside from the fact that this schedule is required by law, a posting of these data is found beneficial from other points of view. Undoubtedly the framers of this law regarded the schedules as of more use than simply an aid in its enforcement. A posted register of hours of labor places the wishes of the employer distinctly before the individual workers as well as before the foreman; it clearly notifies each person of just exactly how much time is to be spent at work; it removes the temptation to exact overtime work; it allows the foreman to plan his work accurately; and it allows the employes certainty as to their hours of recreation.

Strict compliance with this law means more than immunity of the employer from punishment. It manifests to the Department a spirit of co-operation which in itself is more than a mere satisfaction, it is an inspiration. To the employe, a violation of the letter of the law may entail no actual hardship. It is nevertheless a violation of the law, which was enacted for her protection, and a violation of an apparently insignificant detail is frequently followed by a more grave offense. Strict compliance therefore with the letter as well as with the spirit of the law can not help but increase the contentment of the workers, and contentment makes for efficiency and promotes good will.

BUREAU OF INSPECTION RECORDS INDICATE 81,572 INSPECTIONS OF WORK PLACES MADE DURING 1916, WITH MORE THAN 15,000 ORDERS ISSUED FOR SAFEGUARDING WORKERS.

The one hundred inspectors of the Bureau of Inspection, advancing safety in the industrial establishments in all sections of Pennsylvania, as well as co-operating in investigations for the Workmen's Compensation Bureau, assisting in mediation work and other general departmental activities, made 81,572 inspections of work places during 1916. These inspections resulted in the issuance of over 15,000 instructions, requiring the installation of approximately 250,000 safeguards and the making of other improvements for safeguarding workers. The number of inspections made during 1916 is an increase of approximately 60 per cent over the number reported during the year 1915. This increase is largely due to a more efficient and systematic method of making inspections, developed through past experience of the comparatively new Department of Labor and Industry, combined with the new duties imposed by the Workmen's Compensation Act which became effective January 1, 1916.

Reports of the inspectors are now made through a code system which is producing accurate information, tabulated in standardized form and eliminating superfluous data and exhaustive writing, by the inspectors, in submitting reports. The saving of the inspectors' time through the adoption of this code system for reports is having a potential influence on increasing the efficiency of inspectors in the field.

Approximately 75 per cent of the instructions issued have been fulfilled through active co-operation of employers. The remaining 25 per cent of the instructions are being complied with, at the present time, under the adequate time limit always given by the inspector when an instruction is issued. It is in comparatively rare instances that it is necessary to resort to prosecutions to compel the making of safety improvements required by the Inspection Bureau. The policy of this Department is one of co-operation with the resorting to police power only when co-operative action has failed.

Four Divisions of the Bureau of Inspection are active along specialized lines and, supplementing the general inspection work, are potent forces in the advancement of safety. These Divisions are Accident Investigation, Buildings, Boilers and Elevators.

During the year 1916 the Division of Accident Investigation, following up reports of fatal and serious accidents, investigated over 1500 of such accidents in the shops where they occurred and formulated methods to prevent the recurrence of such casualties.

The Division of Building Inspection checked 1035 plans for structures which come under the jurisdiction of this Department. These plans concerned especially motion picture theatres, safe exits for public halls and proper erection of fire escapes.

The Division of Boiler Inspection checked more than 25,000 reports of boiler inspections made by individual and casualty company inspectors, who, having passed examinations conducted by this Department are recognized as qualified inspectors and hold State certificates. Where these reports indicated unsafe conditions, demanding attention from this Department, the cases were investigated by this Division of Boiler Inspection.

The Division of Elevator Inspection, during the last six months of 1916, inspected 439 elevators and, during the year, condemned many elevators as unsafe. This Division supervised for safety the installation of 306 new elevators in various sections of Pennsylvania. This Division also checked 7341 elevator inspection certificates from casualty company inspectors holding State certificates and also issued 525 permits for new elevators to be erected in accordance with State standards of safety.

In addition to its specialized activities, the Bureau of Inspection, through inspectors trained in foundry work, made inspections of 300 foundries for the safeguarding of foundry employes against accident dangers as well as against more subtle dangers incident to draughts, poor ventilation and similar hazards. The Bureau of Inspection has also passed upon 10,478 reports of inspections of establisments from the Compensation Rating Bureau of the insurance companies.

The specialized activities of the Bureau of Inspection, in the four Divisions previously named, are given in more detail in the following pages with suggestions for safety as evolved from the field work of these Divisions.

The year 1916 called for special effort by the Bureau of Inspection as in that year came a great wave of industrial activity combined with the inauguration of the workmen's compensation system. The great industrial activity, especially in the metal plants, where the accident hazard is high, resulted in extension by many plants, either structurally or in the addition of machines in existing structures. More labor was employed and safeguarding of the new machinery, often hastily installed, required much attention and considerable

expense on the part of employers who co-operated actively with this Department for the promotion of safety. Every inspector of the Department was instructed to make thorough inspection of every new or enlarged plant and as a result of these inspections instructions were issued for many thousands of machine guards.

Division of Accident Investigation.

To the end that accidents may be materially reduced during the year 1917, the Division of Accident Investigation again calls the attention of those interested in "Safety First" to the importance of having all injuries, regardless of how trivial, reported and treated immediately, for a very large number of the fatalities occurring during the past year were due to neglect of slight injuries or wounds.

Those in authority should impress upon the employes the importance of reporting all injuries, however slight.

First Aid Kits should be provided and one or more persons should be instructed in the use of them; but every injury should be referred to a competent physician as soon as possible. The first aid outfit should be used to give only temporary relief to the injured or for sustaining life until a physician arrives.

The following accidents, investigated by this Division, illustrate the dangers of infection and also hazards arising from other causes.

Neglect of Nail Wound.

As an employe of an iron manufacturing company was walking through the shop with a piece of casting on his shoulder, a piece of wire or a nail pierced his foot. He continued at his work for the remainder of the day, paying no attention to the injury. The next morning his foot was so swollen that he could not go to work, and yet he failed to have it treated until the second day after receiving the injury. When a physician was finally called, the condition of the workman's foot was such that he was taken to the hospital, where he died three weeks later from blood poisoning.

The plant where the man was employed had a first aid kit, but he failed to report the injury and have it treated at once and he paid the penalty for his neglect with his life.

Infection.

While engaged in cleaning a well, a workman scratched his hand on a nail and failed to have the wound cleansed and treated immediately. It became infected, blood poisoning developed, resulting in lockjaw, which caused the worker's death two weeks after the injury.

Neglect of Orders.

Failure of employes to obey orders and instructions given for their protection often results fatally.

An employe of a furniture company was engaged ripping a board, and several times he had been warned to stand in the proper position while doing this work. He disregarded orders and the piece of board he was ripping rebounded, striking him in the stomach, inflicting internal injury from which he died two days later.

Unsafe Fire Escape.

Fire escapes having the ladder balanced by weights, attached to the end of a chain running over a pulley, have been a serious menace to the safety of the public, and in order that this hazard may be removed the Department of Labor and Industry is requiring that wherever a balanced terminal section is necessary in the erection of a fire escape, the balance weight must be securely attached to the terminal section and not loosely suspended on chains or cables. The need for this requirement is demonstrated in the following report of an accident that occurred recently in one of the cities of the state.

An employe of an industrial manufacturing and electric company had occasion to raise the ladder of a fire escape. The ladder was balanced by a chain running over a pulley with weights attached to the end of the chain. The chain broke and the ladder and weights dropped on the employe's head, killing him instantly.

Loose Clothing.

The wearing of loose or ragged clothing by employes who are operating machines or working around machinery should be prohibited. The following accident from this cause is only one of many similar ones.

An employe of a bolt and nut company was putting nuts on the bolts and while thus engaged, he leaned against the side of the machine which was threading the bolts. He was wearing a sweater with the sleeves down. He lost his footing, the sleeve of his sweater caught in the adjusting screw in the chuck head, and he was thrown on the machine, resulting in his right arm being broken and severely lacerated.

Failure To Use Guard.

Many accidents occur from the failure of workmen to use guards provided by the employers.

Employes often remove guards either because they are not accustomed to them or because they believe that the work can be done better or more expeditiously without them.

This practice should be strictly prohibited and those in charge of the work should be watchful at all times to detect such offences so that accidents similar to the following may be eliminated.

An employe in the pattern making department of a steel company was engaged sawing a piece of plank on a circular saw. After finishing the cut he evidently reached over the saw to remove the cut pieces and one of the blocks, coming in contact with the saw, was hurled against his stomach causing contusion of the abdomen and resulting in death two days later.

A guard had been installed on the saw, but it was not in place. Had it been in place this accident could not have occurred.

Neglect.

A young man employed in a bakery was ordered by the foreman to go to another floor for some baking material. On the same floor where he was to secure the material, the mixer was located. At this particular time the mixer was not in operation, but the boy—no doubt for curiosity—started the machine, and it is supposed that his apron or some part of his clothing was caught and drew him into the mixer. Before his cries were heard, he was so badly crushed that he died.

A cover had been provided for this mixer, but instead of its being in its proper place, it was lying in the warehouse, and the penalty for this carelessness was the loss of a life.

Disregard of Orders.

A brakeman engaged in the transportation department of a steel company walked ahead of a draft of five cars and an engine to couple the draft to an empty car standing on a sharp curve. He stepped in front of the oncoming draft to adjust the coupler, after which he remained between the cars. As he was on the inside of the curve, he was pinched between the corners of the cars and knocked down, one pair of wheels passing over his ankles, cutting off both feet.

This man disobeyed the company's instructions: first, in going between moving cars; second, in staying between cars while coupling was being made. If it was necessary to adjust the coupler, he should have signalled the engineer to stop for that purpose.

While this man paid the penalty for his disobedience of rules, this fatality should serve as a warning to his fellow workmen to play the safety game at all times.

Preventable Accident.

A scale tester and his assistant, employes of a steel company, were riding in the cab of a small engine used for hauling a scale test car, when a car of lumber, that was being pushed by another engine, collided with it. The lumber car crashed into the cab of the small engine, wrecking the cab and knocking a hole in the rear end of the boiler, causing the steam to escape, scalding the tester and his helper so severely that they both died.

These two engines were backing toward each other and collided at about the middle of a one-half mile stretch of a perfectly straight track. The engineers claim that it was very foggy, but after an investigation, it was learned that neither engineer blew his whistle or rang his bell, and that the crew of one-engine started east on a west bound track without notifying the yard master or dispatcher.

This accident was due entirely to both engine crews neglecting to observe ordinary precautions.

Peculiar Explosion Causes Death.

An employe of a chemical company was helping to melt a quantity of old lead pipe. While engaged in cutting it up with an ax, he cut off a piece of the pipe and put it into the ladle, not knowing that the pipe was filled with water. In cutting this section of pipe its ends were sealed retaining the water and when the pipe started to melt, the water was released and coming in contact with the hot metal caused an explosion which blew the end of the pipe out of the ladle, striking a man on the forehead and killing him instantly.

Failure to Have First Aid Treatment.

While a workman was engaged beading flues on a locomotive with a bead tool and hand hammer, a small piece of metal or chip flew and struck him on the wrist, causing a slight wound.

He failed to report the injury to the first aid crew and have it treated immediately, and as a consequence of this neglect the wound became infected and blood poisoning developed resulting in death just six days after the injury was sustained.

Failed to Use Rubber Gloves.

An electric company employe while making repairs on a 2300 volt line on top of a pole used cotton gloves instead of the rubber, insu-

lated gloves, which were provided by his employer. On account of the cotton gloves not having the proper insulating qualities, the man received an electric shock which proved fatal.

Loose Material on Roof.

While a workman was engaged hoisting and lowering material to and from a roof, which he was repairing, an empty nail keg that had been left on the roof was blown off by the wind, and in its descent struck the man on his nose, cutting it off and injuring his head. Death resulted two days later.

An Unusual Accident.

While repairs were being made to a pneumatic tube system, which was used to send reports from one office to another in the shop of a railroad company, a peculiar accident occurred causing the death of one of the employes. It appears that the carrier, similar to those used for transferring cash in department stores, caught in the tube and, in an effort to remove this carrier, the repairmen used compressed air, but found that they could not dislodge the carrier. A piece of steel, weighing about two pounds, was then dropped into the tube in an effort to accomplish the removal of the obstacle. But still the efforts were futile. The tube was then disconnected at one point and compressed air of about 100 pounds' pressure was turned into the tube with the result that the piece of steel was blown from the other end of the tube with sufficient force to fracture the spine of an inspector who was struck by the flying piece of metal.

Carelessness.

A fatal accident occurred in a boiler plant due to a repairman entering an empty boiler without first ascertaining that the blow-down valves had been closed after the boiler was emptied. It appears that the water tender on duty had neglected to close the valve after draining the water from the boiler. While the repairman was still in the boiler the water tender was relieved by a new man coming on duty, and the latter not knowing that the blow-down valves were open on the empty boiler proceeded to blow-down an adjacent boiler. As all blow-down valves were connected into a common header, steam and water at high temperature entered the empty boiler and scalded the repairman with fatal results.

It is obvious that some means should be used for eliminating the possibility of such an occurrence. This may be accomplished by equipping the blow-down valves in such a manner that valves could

be operated only by the use of a removable lever or hand wheel, so arranged that this lever or hand wheel could not be removed when the valve is in the open position. If only one lever or hand wheel is in use, it can readily be seen that it would be impossible to open a second valve without first closing the valve on another boiler.

Lack of Safeguard—Infection.

While operating a saw, not equipped with a guard, an employe was struck on the hand by an edging from the material caught by the saw. Although first aid treatment was available, the injured man positively refused to permit the foreman to treat the wound, in fact he became very indignant and created considerable disturbance when it was undertaken. The wound became infected and in fourteen days from the date of injury the workman died.

While the lack of a proper safeguard on the saw was primarily the cause of this fatality, yet, had the injured man submitted to the first aid treatment his life would no doubt have been saved.

Poor "Housekeeping."

Many accidents are due to poor "housekeeping" or the improper storage of tools and materials not in use. Following is an account of a fatal accident due to this neglect.

At one of the large steel plants, coal was being loaded from a stock pile into cars by a steam shovel. A man in the cab of the steam shovel was shoveling coal into the fire box of the boiler. Some rope and other material had been placed on a shelf in the cab, and among these was one-half of a friction brake band weighing, about 60 pounds, which had been placed on top of the rope. In the operations of the shovel the vibration caused the brake band to fall off the shelf, striking the workman on the side. Lobar-pneumonia developed three days later, resulting in death five days after the accident occurred.

Crane Accident.

Several fatal accidents have occurred from locomotive cranes falling or toppling over and in most instances failure to apply rail clamps or use out-riggers has been the cause. The following is an account of an accident due to neglect to use rail clamps.

Workmen were engaged in loading a car with ore by means of a locomotive crane. In making a lift the bucket caught on some frozen ore, but on being suddenly released, the boom came up with such force that it swung beyond the car. The operator applied the brakes so suddenly that the crane toppled over killing him instantly.

Those in charge of locomotive cranes should see that all safety devices are used and that cranes are not overloaded. Indicator pointers, showing the safe load at any angle of the boom, should be provided.

Danger From Walking On Railroad Tracks.

The use of railroad tracks as thoroughfares by employes going to and from their work or in making a "short cut" is a practice attended with great danger and many serious and fatal accidents have occurred from this cause.

The danger is not only confined to the tracks of the large transportation companies but to the tracks in the plant yards, and every effort should be put forth to discourage and prevent the use of the tracks for any purpose other than the moving of cars.

The danger from this practice is increased during the winter months when the men go to their place of employment while it is yet dark and when the train crews are unable to see anyone who might be on the track or in the danger zone. The following is an account of an accident occurring from this condition.

On a morning of December, 1916, dark and stormy, with about four inches of snow on the ground, an employe of a large manufacturing company with his head covered and muffled was walking on the track between the rails to his work on a cinder dump. He failed to hear the warning signals of a train, and was knocked down by the first car and run over by a shift of four cars.

Since the accident, the chief of the service department of that company has issued instructions to the effect that all men working on the cinder dump must be carried to and from their work in a car, both morning and evening. He has also had signs posted forbidding the use of the railroad tracks as thoroughfares.

Division of Buildings.

Safety in building construction, affording protection against fire and panic in 904 structures in Pennsylvania, was effected during 1916 by the Division of Buildings of the Bureau of Inspection.

None of these structures is in a city of the first or second class, where erection of buildings is regulated by the local municipal government.

One hundred and twenty-three theatres were erected or remodeled in Pennsylvania during 1916, after plans for the structures had been submitted to the Division of Buildings and all features for safety of audiences against fire and panic had been provided. Plans were

submitted and approved during the year for the erection of 522 fire escapes on factories, apartment houses and assembly halls and 183 other building plans were submitted and approved. A total of 1,035 plans of various types of structures were submitted to the Labor and Industry Department during 1916.

Engineers and inspectors, trained in building construction have been assigned to the Buildings Division, which passes upon the plans submitted for new or remodeled theatres, apartment houses, assembly halls, and for erection of fire escapes as ordered by general inspectors in all sections of the State excepting in first and second class cities.

An average of more than 80 plans for various types of structures is submitted to the Department of Labor and Industry each month.

The work is conducted under authority vested in the Department by the various acts regulating factories, public halls and other structures, and by the Industrial Board's safety codes regulating bakeshops, fire prevention, tanneries, foundries, ladders, cereal mills, malt houses, grain elevators, lighting, elevators and explosives. Inspection of State institutions is also conducted through the Division of Buildings.

The Division has also done much to make the moving picture treatres throughout the State more comfortable, safe and sanitary as evidenced by the following reports of four theatres in one town in Pennsylvania.

The inspector of this Department found these theatres in bad condition, but with the hearty co-operation of owners and managers in some cases, and with persuasion and argument in others, the changes cited below were accomplished.

1. This theatre seated about 400 people. There were two aisles each three feet wide. Seats were close together. The booth was not constructed according to law except in a few respects; these being size, position and materials used. A small stage in the rear was rather high. There was a narrow passage way from the auditorium up over the stage to a small exit in the rear. Another rear exit was underneath the stage as follows: starting at the left aisle, down a short stairway, across and under the stage, up a short stairway to an exit which was ordinarily locked with a padlock. In addition to this the stairway did not have enough headroom for the ordinary individual to walk out. In fact, it was almost necessary to crawl out. At the front of the theatre, the depth of the lobby was seven feet from the front exit to the pavement. This front exit was provided with two double outswinging doors five feet wide in the clear. The ticket booth was installed between the doors, the seven feet of space above mentioned was used for storage of posters, baby carriages, etc.

This particular theatre was corrected as follows:

Seats were increased to 450.
Aisles were increased to four feet wide in the clear.
Stage was removed entirely, and two six foot, double, out-swinging doors for the rear exit were installed.
The front remains unchanged except that a storage place for baby carriages, etc. has been provided at the side of the theatre.

Posters are removed during all performances.

2. This theatre was in such a condition that it was necessary to order it to be closed. No instructions for corrections could have been issued by the Department other than to rebuild the theatre.

This building has been dismantled as a motion picture theatre and is now being used for other purposes, and an entirely new theatre has been erected in another part of the town which conforms to the present regulations of the Department.

* * * * * *

3. This theatre was originally a play and vaudeville house. The stage had been abandoned, but the theatre was otherwise as originally built. The front lobby was long and narrow, and it had been further narrowed by placing a large ticket booth at the side. The space at the back of the theatre had been furnished with some settees, large easy chairs, palms, ferns, and tables. The aisles were all narrow and had in some cases as many as fifteen seats in a row between them. There were three side exits, none of which could be opened without the aid of tools. The same condition prevailed in the balcony and gallery.

The followiug changes have beeu made iu this theatre, and more will be made as soon as it is practical to make them.

The aisles have been made of legal width.

The exit doors have been equipped with panic locks and now open easily.

All furnishings, which might prove obstacles in emergencies have been removed from the rear of the auditorium.

The lobby has been made as wide as possible.

The gallery has been closed, and the main and direct exit from the gallery to the street will be tapped for the balcony, which will make five means of egress from the balcony.

* * * * * *

4. This theatre was a case similar to the second one described except that the old theatre was used until the new one was completed. An officer and fireman were in attendance at all performances in the old theatre.

This old theatre is now abandoned and is not being used for any purpose.

The Department desires to thauk the officials of this town for the assistance they rendered the inspectors to secure compliance with the instructions issued, thus avoiding the necessity of resorting to drastic action.

The following circular letter has been issued from the Department regarding equipment of motion picture machine booths:—

Subject: Equipment of Motion Pictures Machine Booth.

INSPECTORS:

Attention has recently been called to the fact that some inspectors are approving sub-standard containers for film storage. Some of those being in the form of a metal box with partitions, built to hold six or eight reels and the films are dropped into the compartments without any other covering.

By referring to the Act you will observe that it states particularly that films not in the machine or in process of rewiuding, must be kept in separate metal containers made without solder and the films to be kept in these cases except as noted above.

Another point that is escaping the notice of inspectors is the absence of fusible links in the cord suspending the gravity shutters. Another point is the lack of lawful ventilating system. Another point is the presence of wood cabinets, wood boxes, furniture, etc., in the booth.

All of those points are of the utmost importance and should receive very careful attention.

In seeking to make buildings as safe as possible in the matter of fire prevention, one item to be first considered and upon which too much stress cannot be laid is that of providing metal receptacles for waste paper, oily waste and other inflammable materials. Co-operation of teachers and students in schools and colleges, of superintendents, foremen and workmen in shops and factories, of sales people and proprietor of mercantile establishments is continually sought by

inspectors throughout the State. Records of instructions issued from this Department show that owners have in most cases promptly made improvements to reduce fire hazards.

When plans for new structures or alterations to old buildings are submitted to the Division of Buildings, particular attention is paid to the elimination of closets under stairways and places for the accumulation of rubbish.

The disastrous fire which completely wrecked, a few months ago, the High School building in a Pennsylvania borough entailing a loss of $75,000 and compelling the use of the churches for school purposes, started in a waste paper box in the basement. Fortunately it happened after school hours and no one was injured.

A lighted match dropped in the storeroom of a five-story building in a city of Pennsylvania completely destroyed three structures and damaged seven others in the business district at a loss of $200,000. It is supposed that there were accumulations of rubbish or inflammables on the floor to give a quick spread to the flames.

A careful system of clean-up methods is urged in all establishments. Fire prevention and fire protection are given much attention by the Building Division in the work of inspecting fire escapes and means of egress.

There was a falling off in the month of December, 1916, both in the number of plans receiving the approval of the Department and in the number of plans submitted to the Department. This was attributed to the fact that manufacturers of iron products were not bidding for new work, and mainly by persistent efforts of the Department inspectors throughout the State were owners of buildings able to secure the services of iron manufacturers to build and erect iron stairs and fire escapes. This refers particularly to the erection of iron fire escapes. The cause of the falling off in building plans can be attributed to inability to secure materials and workmen; consequently, there are fewer building operations.

The system, long since adopted by the Department, of returning approved plans to the owners of buildings through the inspectors, has caused some confusion and created the impression that once the plans are marked in the office with the approval of the Department and sent to the inspectors there is to be no change. The inspector in the field is able to judge if the plans, as approved, meet all conditions and should there be any objection the matter is taken up by the engineers and decided before the plans are returned to the owner.

In view of this fact the inspectors have been instructed by circular letter number 136, attached herewith, to check all plans carefully at the place of erection.

Subject: Plans for Fire Escapes, Buildings, Etc.

INSPECTORS:

Some inspectors are laboring under false impressious as to their respective duties and authority relative to the proper method of haudling plaus for fire escapes, theatres, etc., after said plans have been returned to the various inspectors with the official approval thereon.

It should be understood that it is beyond the scope of human nature for us to obtain uniform plans from all architects, which will show clearly all conditious in and about all buildings which may be in question. For that reason, it is equally impossible for this office to escape approving plans occasioually, which do uot afford the best arrangements which it may be possible to secure.

In view of this fact we have long since adopted the system of returning, through the respective inspectors, all such plans to the architects, or fire escape contractors, with the request that said inspectors check over the plans very carefully, However, it seems that many iuspectors are under the impression that they must accept all approved plans, regardless of whether, for instauce, the location of a fire escape is in accordance with their respective instructions or not.

I beg to advise, therefore, that the above is not necessarily the case, in view of which I request that every inspector will check over all plaus very carefully; aud, if any objections thereto are discovered, which might be remedied, that the plans be returned to this office and the objections clearly stated by letter.

Trustiug that I shall have your hearty co-operation in this matter I beg to remain,

Very truly yours,

LEW R. PALMER,
Chief, Bureau of Inspection.

Approved:
JOHN PRICE JACKSON,
Commissioner.

PLANS APPROVED DURING MONTH OF DECEMBER, 1916.

Fire Escapes.

Towns.	Building.	Architect or Contractor.	Owner.
Easton, ...	Apartments, ...	W. F. Remppis Co., ...	Brown & Kaplan.
Pocono Lake,	Hotel, ...	Scranton Irou & Steel Co.,	Chas. Graves.
S. Bethlehem,	Store & apts., ..	L. Valenzo Iron Works, ...	Mr. Young.
Easton, ...	Apartments, ...	Ed. Paul Richter, ...	F. McGinley.
S. Bethlehem,	Apts. and hall, .	W. F. Remppis Co., ...	E. H. Kresge.
Orwigsburg, ..	Factory, ...	W. F. Remppis Co., ...	Kepner Hdw. Co.
Allentown, ...	Theatre, ...	W. F. Remppis Co., ...	Wilmer & Vincent.
Bloomsburg, ..	Apartmeuts, ...	Geo. W. Anne & Son, ...	Mr. Yetter.
Bloomsburg, ..	Office building, ..	Geo. W. Anne & Son, ...	Morniug Press.
Bloomsburg, ..	Apartments, ...	Geo. W. Anne & Son, ...	Mr. Kleim.
S. Bethlehem,	Apartmeuts, ...	S. Beth. Orna. Iron Works	Aaron Patruch.
Loysville, ...	Orphans' Home,	Geo. C. Baum (Printery), ..	Tressler Orphans' Home.
S. Danville, ...	School, ...	Geo. W. Anne & Son, ...	Elmer C. Fowler.
Altoona, ...	Apartments, ...	Geo. W. Anne & Son, ...	G. W. Winter.
Greentree, ...	School, ...	S. H. Yocum, ...	School board.
Coatesville, ...	Lodge building, .	Lancaster Mach. & Str. Co.,	.....
Trevorton, ...	School, ...	National Fdy. & Sup. Co.,	Trevorton School Board.
Pottsville, ...	Apartments, ...	W. F. Remppis Co., ...	D. F. Guinan.
Del. Water Gap	Hall, ...	Cameron Engineering Co.,	D. D. Drake.
S. Bethlehem,	Rooming house,	S. Beth. Orna. Iron Works	Nathan Kroope.
Canadensis, ...	Hotel, ...	Anthracite Bridge Co., ...	Lafayette Price.

PLANS APPROVED DURING THE MONTH OF FEBRUARY, 1917—Continued.

Towns.	Building.	Architect or Contractor.	Owner.
McKeesport, ..	Apartments, ...	H. G. Ahlquist, ...	Dr. John Reed.
S. Bethlehem,	Apartments, ...	S. Beth. Orna. Iron Works	Gott. Huebner.
Christiana, ...	Hall, ...	Gehret Bros., ...	Christiana F. & A. M.
McDonald, ...	Theatre, ...	Pittsburgh Iron Works Co.,	M. H. Levison.
Mt. Union, ...	Apts. and hall, .	Noe-Wadlow Co., ...	David Saxe.
Harrisburg, ..	Home, ...	Potts Mfg. Co., ...	Sylvan Heights Orphanage.
Huntingdon, ..	Apartments, ...	Geo. W. Anne & Son	I. H. Brumbaugh.
Emporium, ...	Apartments, ...	Geo. W. Anne & Son, ...	R. E. Tulis.
Eddystone, ...	Rooming house,	Noe-Wadlow Co., ...	G. M. Wolford.
DuBois, ...	Theatre, ...	Osborn Machine Co., ...	A. P. Way.
Loysville, ...	Dormitory, ...	Geo. C. Baum, ...	Tressler Orphans' Home.
Easton, ...	Apartments, ...	Ed. Paul Richter, ...	Mr. Bishop.
Lancaster, ...	Office building, ..	Geo. W. Anne & Son, ...	Isaac Golden.
Altoona, ...	Store, ...	Geo. W. Anne & Son, ...	S. Cunningham.
Natrona, ...	Hotel, ...	Taylor & Dean, ...	Hannah Ginder.
Williamsport,	College, ...	National Fdy. & Supply Co.,	Dickinson Seminary.
Reading, ...	Factory, ...	Bauman Iron Works, ...	Penna. Optical Co.
Reading, ...	Lodge hall, ...	W. F. Remppis Co., ...	Orioles.
Easton, ...	Apartments, ...	Ed. Paul Richter, ...	Wm. Bricker.
Easton, ...	Apartments, ...	Ed. Paul Richter, ...	Lipschutz and Peters.
Heidelberg, ...	School, ...	Taylor & Dean, ...	Heidelberg Sch. Board.

Theatres.

Erie, ...	Theatre, ...	Leon Lempert, ...	A. P. Weschler.
W. Berwick, .	M. P. T., ...	.....	Alex Meluceo.
McDonald, ...	Theatre, ...	M. H. Levison, ...	L. Levison & Son.
Sharpsville, ..	M. P. T., ...	.....	C. H. Ruggles.
Berwick, ...	Theatre, ...	C. E. Sitler, ...	R. E. Sult.
Beaver Falls, .	M. P. T., ...	Geo. O. Rogers, ...	Sam. Goodman.

Buildings.

Tarentum, ...	Apts. and hall, .	Press C. Dowler, ...	People's Natl. Bank.
S. Bethlehem,	Apartments, ...	S. Beth. Orna. Iron Works	Aaron Patruch.
Lebanon, ...	School, ...	A. A. Richter, ...	Lebanon School Board.
Allentown, ...	Lodge hall, ...	T. N. Roth, ...	L. O. O. M.
Telford, ...	Garage and hall,	Jerome S. Landes, ...	Herbert Kuhn.
Waynesboro, .	Factory & apts.,	.....	Beck & Benedict Hdw.
Forty-Fort, ...	Factory building,	McCormick & French, ...	Jenkins - Kirby Pckg. Co.

Bakeries.

Towns.	Building.	Architect or Contractor.	Owner.
Pittsburgh, N.S.	Bakery, ...	C. D. Cooley Co., ...	W. C. Burry Co.
Pittston, ...	Bakery, ...	Davey and Crowthers, ...	M. Levy.
Myerstown, ...	Bakery, ...	.....	G. W. Holtzman.

Toilets and Wash Rooms.

Linfield, ...	Toilets, ...	.....	Sanintary Co. of America.

Blowers.

Bareville, ...	Factory, ...	Sterling Blower Co., ...	National Store Specialty Co.

Summary.

Fire escapes, ...	42
Theatres, ...	6
Buildings, ...	7
Bakeries, ...	3
Toilets, ...	1
Blowers, ...	1
Total, ...	60

New plans received during month of December, ...	55
Revised plans received during month of December, ...	25
Total, ...	80

Fire Escapes Ordered During the Month of December, 1916.

Towns.	Location.
Narberth, ...	Narberth Public Schools, C. H. McCarter, Pres.
Lancaster, ...	John Hiemenz, Wheatland Hotel, N. Queen St.
Lopez, ...	Colley Township School Board, Harry Griffiths, Sec.
Allentown, ...	George Seagreaves, Sixth and Hamilton Sts.
Tunkhannock,	Tunkhannock School Board, C. O. Georges, Treas.
Bellevue, ...	Suburban Printing Co., 10 Holly Ave.
Lancaster, ...	I. Golden, 16 N. Concord St.
Milton, ...	F. W. Clinger (extension.)

In the month of January there was a decided increase over the previous month, both in the number of plans submitted to the Department and in the number receiving the Department's approval. This was due in part to the special efforts of the supervising inspectors of the various districts making a hard drive for the completion of all outstanding orders for the year 1916.

The large number of fire escape plans approved is evidence of the work of the Department in providing for the safety of persons occupying buildings within the scope of the Act of Legislature which requires that sufficient means of egress be provided for all persons accommodated, assembled, employed, lodged or residing in specified structures.

The numerous fires which have occurred throughout the State and the resultant loss of life should impress upon everyone the necessity for two separate and distinct fire proof means of escape for all rooms above the first floor in every building, whether or not it comes under the jurisdiction of this Department.

The disastrous fire which occurred recently in a town in northern Pennsylvania is an illustration of what loss of life and serious injuries might have been prevented, if this building had been supplied with an additional fire proof means of egress from the second floor.

When present laws concerning fire escapes and exits were passed it was deemed sufficient to make them apply only to buildings of more than two stories. It was thought that it would not be a difficult matter for the occupants on the second story of a structure to reach the ground in safety if the stairs were not available.

The fire referred to occurred at a time when the ground was frozen hard. The stairway was immediately blocked by fire causing large numbers of the occupants of the building to jump to safety, nearly all of whom suffered broken limbs or other injuries of a serious nature.

This tragedy emphasizes the need for legislation of a scope sufficient to provide adequate means of escape from fire for all persons in any building even those structures of only two stories.

In theatres it is essential that all aisle space be of sufficient width to allow an easy flow of persons from a building under exciting conditions. Recently in a large theatre a film exploded in the booth and the audience became greatly excited but no one was injured although considerable smoke poured out of the booth. The main aisle of this theatre measured 7′ 3″ wide in the clear and the side aisles and cross aisles were of the regulation width, four feet; in addition, there was a large amount of clear space at the rear from the last row of seats to the foyer wall. The inspector who made the

investigation of this accident was of the opinion that these safety features in this particular theatre prevented a serious panic and loss of life.

Investigation of the cause of the explosion showed that the spark which ignited the film originated at the contact points of the main knife switch which was enclosed, but the door could not be closed because the wires did not properly enter the enclosure. Had the wiring been properly done there would have been no explosion.

In treating plans for new, or alterations to old threatres, special attention is being paid to the space for flow of people from all aisles to exits. However safe the theatre may be from fire, the panic risk is always present.

During the month of January, eighty-seven sets of new plans and thirty-one sets of revised plans were received in the Division of Building Inspection—a total of one hundred and eighteen. In the same period seventy-nine sets were approved and forwarded to the owners through the local inspectors.

PLANS APPROVED DURING MONTH OF JANUARY, 1917.

Fire Escapes.

Towns.	Building.	Architect or Contractor.	Owner.
California, ...	Theatre, ...	J. C. Brenton, ...	G. Ferrere.
Northampton, .	Apts. and hall, .	F. N. Peter & Bro., ...	Minisi Tribe R. M.
Lancaster, ...	Hotel, ...	Geo. W. Anne & Son, ...	Wheatland Hotel.
York, ...	School, ...	Smyser Royer Co., ...	St. Mary's R. C. Ch.
Braddock, ...	Factory, ...	Homestead Iron Works, ...	Thos. W. Nugent Co.
Danville, ...	Store & apts., ..	Danville Fdy. & Mch. Co.,	A. Rosenstein.
S. Bethlehem,	Apartments, ...	W. F. Remppis Co., ...	Miss Anna Sheridan.
E. Mauch Ck.,	Apartments, ...	W. F. Remppis Co., ...	John Ryan.
Easton, ...	Apartments, ...	W. F. Remppis Co., ...	Nathan Ytkin.
Easton, ...	Apartments, ...	W. F. Remppis Co., ...	C. Montague.
S. Bethlehem,	Apartments, ...	W. F. Remppis Co., ...	Dan Culhane.
Shamokin, ...	Lodge home, ...	Jury, Kessler and Lee, ...	B. P. O. E.
Swissvale, ...	Office building, ..	Taylor & Dean, ...	Union S. & S. Co.
McKees Rocks,	Apartments, ...	Pittsburgh Iron Works.	Pressed Steel Car Co.
Shenandoah, ..	Apartments-hotel,	W. F. Remppis Co., ...	Mandour Hotel.
Easton, ...	Apartments, ...	W. F. Remppis Co., ...	Joseph Youngkin.
Easton, ...	Apartments, ...	W. F. Remppis Co., ...	Brown & Kaplan.
Sharon, ...	Office building, ..	Taylor & Dean, ...	Cen. Dist. Tel. Co.
Royersford, ...	Factory, ...	Noe-Wadlow Co., ...	Prog. Knitting Mills.

PLANS APPROVED DURING THE MONTH OF JANUARY, 1917—Continued.

Towns.	Building.	Architect or Contractor.	Owner.
Lewisburg, ...	Factory, ...	Danville Fdy & Mch. Co.,	Lewis. Woolen Mills.
Braddock, ...	Apartments, ...	Taylor & Dean, ...	Com. Inv. Co.
Bethlehem, ...	Apartments, ...	W. F. Remppis Co., ...	Samuel Repsher.
Mt. Carmel, ..	Mill, ...	Geo. W. Anne & Son, ...	Mt. Carmel Silk Mills.
S. Bethlehem,	Apartments, ...	S. Beth. Orna. Iron Works	Antonio Castellucci.
McKees Rocks,	Lodge building,	Buechele Iron & Tool Works	L. O. O. M.
Kittanning, ...	Municipal bldg.,	Taylor & Dean, ...	Kittanning Boro.
Kittanning, ...	Hotel, ...	Taylor & Dean, ...	Harry Stein.
Farrell, ...	Apartments, ...	Pittsburgh Iron Works Co.,	J. J. Heimbucher.
Hazleton, ...	Hall and apts., .	Hazleton Iron Works Co.,	Wagner and Livingston.
Munhall, ...	Lodge temple, ..	Keystone Orna. Iron Co., ..	A. O. K. of M.
Sunbury, ...	Apartments, ...	Geo. W. Anne & Son, ...	E. C. Clark.
Shenandoah, ..	Theatre, ...	W. F. Remppis Co., ...	M. J. O'Hara.
Johnstown, ...	Nurses' Home, ..	Henry M. Rogers, ...	Lee Mem. Hosp.
Easton, ...	Hotel, ...	Ed. Paul Richter, ...	Mt. Vernon Hotel.
Carnegie, ...	Apartments, ...	Homestead Iron Works, ...	M. O'Keefe.
S. Bethlehem,	Store & apts., ..	S. Beth. Orna. Iron Works	S. Shameneck.
S. Bethlehem,	Apartments, ...	L. Valenzo Iron Works, ..	Thos. Decrosta.
Pottsville, ...	Office building, ..	W. F. Remppis Co., ...	Thompson.
Hazleton, ...	Apartments, ...	Hazleton Sheet Metal Co.,	Frank Rauzi.
Johnstown, ...	Apartments, ...	Geo. J. Griffith Iron Wks.,	Geo. O'Fish.
W. Homestead,	Apartments, ...	Keystone Orna. Iron Works	Rose Keown.
Munhall, ...	Apartments, ...	Keystone Orna. Iron Works	Wilhelm Gross.
Homestead, ...	Apartments, ...	Keystone Orna. Iron Works	C. Goeddel.
Belleville, ...	Hotel, ...	Potts Mfg. Co., ...	G. E. Brindle.
Wilkes-Barre,	Apartments, ...	G. E. Long, C. E., ...	Lawrence Myers Est.
Pottsville, ...	Apartments, ...	W. F. Remppis Co., ...	L. Refowich.
Eagles Mere, ..	School and hall,	Scranton Iron & Steel Co.,	Eagles Mere Sch. Board.
Falls, ...	Hotel, ...	Scranton Iron & Wire Wks	Hotel Falls.
Montrose, ...	Apartments, ...	Scranton Iron & Wire Wks	Read, Warner & Puerner.
Parsons, ...	Lodge hall, ...	.....	I. O. O. F.
Harrisburg, ...	Mercantile bldg.,	Potts Mfg. Co., ...	Geo. E. Etter, Agt.
Woodlawn, ...	Apartments, ...	Homestead Iron Works, ...	Nick Plodomec.
Allentown, ...	Sleeping rooms, .	Guerber Engineering Co., ..	St. Luke's Hosp.
Harrisburg, ...	Mercantile bldg.,	Geo. W. Anne & Son, ...	Geo. E. Etter, Agt.
Harrisburg, ...	Apartments, ...	Smith Fence & Iron Works	E. J. Stackpole.
York, ...	Factory, ...	Smyser Royer Co., ...	Maple Press Co.
Egypt, ...	Factory, ...	F. N. Peter & Bro., ...	Egypt Silk Mills.
Hazleton, ...	Factory, ...	Hazleton Iron Works, ...	Jeansville Iron Works.
S. Bethlehem,	Store and apts.,	W. F. Remppis Co., ...	F. W. Martenis.
Hazleton, ...	Apartments, ...	Mr. Barna, ...	Jacob Narrow.

Theatres.

Donora, ...	M. P. T., ...	M. McCreery, ...	A. Panarello.
York, ...	M. P. T., ...	J. A. Dempwolf, ...	Jackson Theatre.
Marienville, ..	M. P. T., ...	.....	Stromquist and Keating.
Duncansville, .	M. P. T., ...	Geo. W. Myers, ...	Geo. W. Myers.
Braddock, ...	M. P. T., ...	H. S. Bair, ...	Ben Burk.
Mt. Union, ..	Theatre, ...	J. Herbert Hall, ...	J. S. Shapiro.

Buildings.

Towns.	Building.	Architect or Contractor.	Owner.
Erie, ...	Apartments, ...	Shutts & Morrison, ...	S. King.
Coudersport, ..	School, ...	Hersh & Hersh, ...	Coudersport Sch. Board.
Reading, ...	Storage, ...	Calvin James Young, ...	Penn Rag and Metal Co.
Sunbury, ...	Store & lodge, ..	Mr. Jonas, ...	Mrs. Moore's Est.
Glen Rock, ...	Auditorium, ...	Joseph Dise, ...	Glen Rock Musical Organization.
Easton, ...	Apartments, ...	Charles Oldt, ...	Pomfret Realty Co.
Hershey, ...	Factory, ...	John H. Wickersham, ...	Hershey Choc. Co.
Ebensburg, ...	Court House, ...	J. Riley Gordon, ...	Cambria County.
Tamaqua, ...	Store and apts.,	C. F. Storch, ...	Dr. H. Williams.
California, ...	Lodge building, .	J. C. Brenton, ...	F. O. E.
York, ...	Bank and office,	John B. Hamme, ...	City Bank.
Ardmore, ...	Apts. and store,	John Charles Norton, ...	J. Kettenring.

Guards.

Shrewsbury, ...	Factory, ...	York Heat. & Vent. Co., ..	Seiling Fur. Co.

Summary.

Fire escapes, ...	60
Theatres, ...	6
Buildings, ...	12
Guards, ...	1
Total, ...	79

New plans received during the month of January, ...	87
Revised plans received during the month of January, ...	31
Total, ...	118

Fire Escapes Ordered During the Month of January.

Towns.	Location.
Apollo, ...	Knights of Malta Building.
Apollo, ...	I. O. O. F. Building.
Harrisburg, ...	Robert Ross Jones, 214 N. 3rd St.
Coatesville, ...	Worth Brothers Co., Fallowfield Township.
Shamokin, ...	D. I. Jones.
E. Mauch Ck.,	P. G. Dery.
N. Kensington,	John Ross & Bros.

During the month of February, there were 59 sets of new plans and 26 sets of revised plans received, a total of 85 sets.

Of this number there were 62 sets approved and a follow-up check of the buildings affected shows that improvements and additions called for on the plans are being rapidly installed.

The following list of plans approved and fire escapes ordered shows how the work is distributed over the State.

PLANS APPROVED DURING MONTH OF FEBRUARY, 1917.

Fire Escapes.

Towns.	Building.	Architect or Contractor.	Owner.
Lewistown, ...	Lodge hall, ...	Noe-Wadlow Co., ...	B. Wollmer.
S. Bethlehem,	Apts. and club, .	S. Beth. Orna. Iron Works	Sol. Goodman.
S. Bethlehem,	Apts. & store, ..	S. Beth. Orna. Iron Works	John Bierbaum.
Easton, ...	Opera House, ..	W. F. Remppis Co., ...	J. K. Detweiler.
S. Bethlehem,	Apts. and hall, .	W. F. Remppis Co., ...	E. H. Kresge.
Canadensis, ..	Hotel, ...	Anthracite Bridge Co., ...	Clarence Price.
Honesdale, ...	Factory, ...	J. Freund, ...	Birdsall Bros. Co.
Riddleshurg, ..	Hall, ...	Geo. W. Anne & Son, ...	K. G. E .
Lewisburg, ...	Mill, ...	Geo. W. Anne & Son, ...	W. S. Halfpenny.
Huntingdon, ..	Apartments, ...	Geo. W. Anne & Son, ...	W. Reed & Son.
Barksville, ...	School, ...	Scranton I. & S. Co., ...	St. Johns Parish Hall.
Henryville, ...	Hotel, ...	Scranton I. & S. Co., ...	E. R. Henry.
Homestead, ...	Apartments, ...	Homestead Iron Works, ...	M. Denjanovic.
Mt. Pocono, ..	Hotel, ...	Scranton I. & S. Co., ...	E. H. Smith.
Cresco, ...	Hotel, ...	Scranton I. & S. Co., ...	M. A. Price.
Canadensis, ...	Hotel, ...	Scranton I. & S. Co., ...	J. S. Price.
Kittanning, ...	Municipal bldg.,	Taylor & Dean, ...	Kittanning Boro.
S. Bethlehem,	Apartments, ...	.....	Sol. Strauss.
S. Bethlehem,	Apartments, ...	.....	Sol. Strauss.
Mt. Carmel, ..	Mill, ...	Geo. W. Anne & Son, ...	Mt. Carmel Silk Mfg. Co.
Easton, ...	Apartments, ...	W. F. Remppis Co., ...	B. D. Mayer.
Reading, ...	Factory, ...	W. F. Remppis Co., ...	Berks Eng. Co.
Braddock, ...	Hospital, ...	Taylor & Dean, ...	Braddock Gen. Hospital.
Reading, ...	Apartments, ...	W. F. Remppis Co., ...	J. H. Cassel.
Trexlertown, .	Hall, ...	W. F. Remppis Co., ...	P. Moatz, Sec.
E. Mauch Ck.,	Mill, ...	Guerber Eng. Co., ...	Bery Silk Co.
Bethlehem, ...	Apartments, ...	W. F. Remppis Co., ...	Theo. Schug.
S. Bethlehem,	Apartments, ...	S. Beth. Orna. Iron Works	Dan Sullivan.
S. Bethlehem,	Apartments, ...	W. F. Remppis Co., ...	M. J. McGovern.
Easton, ...	Apartments, ...	W. F. Remppis Co., ...	G. Maiorano.
N. Braddock, .	Apartments, ...	Homestead Iron Wks. Co.,	Mr. Bowman.
Allentown, ...	Hotel.	J. J. Hanlon Iron Works, .	American Hotel.
Columbia, ...	Factory, ...	Geo. W. Anne & Son, ...	Std. Gar. Co.
N. Braddock, .	Apartments, ...	Homestead Iron Works Co.,	Max Miller.
Youngwood, ...	Lodge hall, ...	Taylor & Dean, ...	Jacob B. Sell.
Towanda, ...	Apartments, ...	Portable Tool Co., ...	Anna Griffith.
Loysville, ...	Shop, ...	Geo. C. Baum, ...	Tressler Orphans' Home.

Theatres.

Towns.	Building.	Architect or Contractor.	Owner.
Palmerton, ...	M. P. T., ...	Jacoby & Weishampel, ...	Browell and Labarre.
Hudson, ...	M. P. T., ...	.....	Otto Kiel.
McKees Rocks,	M. P. T., ...	John H. Phillips, ...	Dr. J. A. Barr.
DuBois, ...	Theatre, ...	Harrington & Howard, ...	Carlton Lyric Co.
Shamokin, ...	M. P. T., ...	W. H. Lee, ...	Geo. G. Higgins & Son.
Danville, ...	M. P. T., ...	W. H. Lee, ...	Joseph Heim.
Erie, ...	M. P. T., ...	A. Schroeck, ...	A. P. Weschler.

Buildings.

Reading, ...	Club House, ...	During, Okie & Ziegler, ..	Wyomissing Club.
Easton, ...	Depart. store, ..	A. D. Chidsey, ...	Wm. Laubach.
Dl. Water Gap,	Boarding house,	J. Norman Cassel, ...	F. C. Howard.
Evans City, ..	Hall, ...	.....	C. E. Glenn.
Easton, ...	Factory, ...	R. V. Banta, ...	Binney & Smith Co.
Reading, ...	Apartments, ...	H. G. Mohn, ...	Wm. Kohll.
S. Bethlehem,	Apartments, ...	E. R. Bitting, ...	A. Gradwohl.
Lewistown, ...	Store and apts.,	John B. Hamme, ...	Lewis Fosnot.
Lancaster, ...	Mill, ...	C. E. Urban, ...	Stehli Silk Corp.
York, ...	Hall, ...	Gemmell & Billmyer, ...	L. O. O. M.
Carlisle, ...	Apartments, ...	F. H. Fahnstock, ...	Dr. Guy C. Lee.
S. Bethlehem,	Apartments, ...	E. R. Bitting, ...	Samuel Siegel.
Loysville, ...	Dormitory, ...	Geo. C. Baum, ...	Tressler Orphans' Home.
Larksville, ...	School, ...	Jas. A. Boyle, ...	St. Johns Parish.

Bakeries.

Charleroi, ...	Bakery and apts.,	Charleroi Lumber Co., ...	James Stevenson.
Pittsburgh, ...	Bakery, ...	.....	Wyckoff Baking Co.
Philadelphia, .	Bakery, ...	A. H. Savery, ...	Blank Bros.

Wash and Toilet Rooms.

Earnest, ...	Factory, ...	.....	Harrison Sfty. Boiler Works.

Summary.

Fire escapes, ...	37
Theatres, ...	7
Buildings, ...	14
Bakeries, ...	3
Wash and toilet rooms, ...	1
**Total, ...	62**

New plans received during the month of February,	59
Revised plans received during the month of February,	26
Total,	85

Fire Escapes Ordered During the Month of February, 1917.

Towns.	Location.
Lewistown, ...	Dresse Apartment House.
Springville, ...	I. O. O. F. 992.
Lancaster, ...	Nissley Apartments.
Lancaster, ...	Mary V. H. Stenmitz.
Reading, ...	W. B. Krick.
Roaring Spring	W. H. Robinson.
Altoona, ...	H. H. Glunt.
Johnstown, ...	H. Saly.
Spring Mills,	John Smith & Bros.
Centre Hall, ..	S. W. Smith.

Division of Boilers.

During the month of February, the Division of Boilers, received reports of 1,825 inspections of boilers by qualified inspectors in all sections of Pennsylvania, excepting in Philadelphia and Pittsburgh, where the municipal authorities have jurisdiction. There were also received during the month, notices from owners of 70 boilers throughout the State that repairs ordered by the Department had been made and that safety requirements had been met.

The reports for February indicated further that 124 new boilers had been installed in Pennsylvania manufacturing establishments, outside of first class cities, during the month.

Analysis of the reports received during February indicate the following boiler defects:

	Serious.	Minor.
Scale,	43	539
Corrosion,	13	228
Pitting,	....	104
Grooving,	....	21
Defective tube ends,	....	126
Defective furnaces,	....	103
Fractures,	....	2
Defective water gauges,	....	59
Defective pressure gauges,	5	23
Defective safety valves,	6	40
Bulges,	....	5
Unclassified defects,	....	609
Condemned,	3	....
Suspended,	8	....

Division of Elevator Inspection.

During the month of February, there have been received and checked approximately 363 elevator inspection reports from the various qualified inspectors in the State of Pennsylvania, except in cities of the first and second classes.

These inspections were made by approved inspectors, holding Pennsylvania certificates. Plans covering the installation of 53 new elevators were checked and approved during the month. Dangerous conditions were found by the inspectors and necessary instructions were issued for the purpose of rectifying them. A steady improvement of elevator conditions prevails throughout the State as is indicated by the reports received from the inspectors.

ADVANTAGES OF AUTOMATIC NON-RETURN VALVES FOR BOILERS AND REASONS FOR USING THEM.

Section 302 of the Boiler Code states: "When two or more boilers are connected to a common steam main, two-stop valves, with an ample free blow drain between them, shall be placed in the steam connection between each boiler and the steam main. The discharge of this drain valve must be visible to the operator while manipulating the valve. The stop-valve shall consist preferably of one automatic, non-return valve (set next the boiler), and a second valve of the outside screw and yoke type; or two valves of the outside screw and yoke type may be used."

The necessity for the use of automatic valves as a safety device is well known to engineers, who are aware of the danger to life and damage to property when a steam main or tube bursts, particularly under the conditions and pressure of modern steam engineering. It is often necessary, owing to some breakage, to close a stop valve at a moment's notice, and in order to obviate the necessity of the operator climbing a ladder and groping around in a steam filled room to find the valve and close it, the use of these valves should be compulsory. With an ordinary stop valve, the fireman or water tender is frequently scalded in trying to shut off the steam, or is driven from the boiler room without being able to do anything to save the entire plant from a shut-down.

The automatic valve should be placed between the regular stop valve and the boiler and as close to the boiler as possible. This valve should be preferably of the double-acting rather than of the

ordinary non-return type so that it will protect the steam main as well as the boiler. The use of this type of valve serves three purposes:

1. To close automatically, should a tube, or any part of the boiler to which it is attached, give way, thereby isolating the disabled boiler from the others, or should a steam pipe burst or a cylinder head of an engine blow off.

2. To keep a boiler closed until its pressure equals that in the header, thus avoiding accidents due to opening valves either through carelessness or incorrect steam pressures, due to gauges being out of order, and while there is considerable difference of pressure.

3. To serve as an added protection to a man working in the boiler, because it eliminates the possibility of turning steam into the boiler, as the pressure in the header makes it impossible to open the valve. The disc in this valve is not attached to the valve stem, but the valve can be used as an ordinary stop-valve by screwing the steam down until it holds the disk on its seat. A rupture of a steam line, under high pressure is usually more destructive in damage to property and danger to the lives of the operators than boiler tube ruptures, therefore a valve that will protect the piping beyond the boilers has a value that cannot be estimated and should be considered in the same light as a safety-valve and be installed in every boiler plant of two or more boilers.

A SECURE AND EFFECTIVE MODERN FIRE ESCAPE.

There is being installed in the schools of a city in Pennsylvania a type of fire escape construction which possesses all the elements of safety in cases where large numbers of pupils are to pass out simultaneously from different floors at the same side of the building. The structure is in the nature of an outside iron fire tower with circling spiral stairways constructed of steel angles supported on cement foundations.

The pupils emerging from the fourth floor enter the tower and descend by means of interior stairs. The third floor pupils descend by means of a stairway circling the tower on the outside and the second floor pupils also descend by another outside stairway, circling the tower, and paralleling the stairway, carrying the third floor pupils. Upon reaching the ground the pupils from the different floors exit and escape from different angles.

From the standpoint of economy, this structure serves the purpose of practically three stairways, which would be necessary to relieve properly such a building. The additional cost of the material which would be strong enough to carry the three sets of stairways is slight compared to the cost of furnishing three separate sets of supports for three independent stairways.

It is impossible in a great many cases on account of the arrangement of the rooms, to exit from the several floors at different sides of the building. Usually a stairway is at one side of the building, and in order to provide two separate means of egress from all floors, the fire escape should be located at the side of the building opposite the interior stairway, in which case the exit from all floors to the fire escape is at the same side of the building, therefore making it obligatory for the pupils of all floors to pass down the same stairway. The idea of this new type is to prevent the congestion and crowding at the different floors.

DIVISION OF MUNICIPAL STATISTICS COMPILES STREET PAVING DATA OF THIRD CLASS CITIES OF PENNSYLVANIA.

Facts about street paving, in cities of the third class in Pennsylvania, compiled by the Division of Municipal Statistics of the Department of Labor and Industry in January, 1917, show that Harrisburg heads the list of thirty municipalities with a mileage of 76.167 miles. The street paving statistics were obtained from the city engineer of each muncipality.

While Harrisburg heads the list for lineal mileage, Erie, with 68.32 miles of paving, leads in yardage with 1,392,310.27 square yards against 1,213,747.64 yards in Harrisburg. In both cities asphalt is the principal kind of paving in use.

Altoona is the third city in the list according to mileage, with 48.21, while Wilkes-Barre ranks fourth with 47.322 miles. In the comparison between these two cities, Wilkes-Barre, while having less mileage of pavement than Altoona, leads in yardage with 747,302 square yards of asphalt as against 109,926.8 square yards of brick and asphalt pavement in Altoona.

The city of Chester with a record of 40 miles of asphalt paving exceeds both Wilkes-Barre and Altoona on the yardage basis, having 800,000 square yards of asphalt pavement. Johnstown, with 43.36

miles of brick and asphalt has 653,705.7 square yards. Allentown, with 40.25 miles of asphalt exceeds the Johnstown yardage however, with 665,653 square yards.

Municipalities in the tabulation having less than 40 but more than 30 miles of paving are: McKeesport, 36.55 miles; New Castle, 32.07 miles, and Reading, 31.469 miles.

Seventeen of the cities have paved principally with brick; six cities with asphalt; three with brick and asphalt; two with vitrified block and two with wood block.

The tabulation which may be obtained upon application to the Department, goes into complete detail regarding classes of paving, method of assessment, proportion paid by cities, unit cost of various pavements, cost of curbing and similar information. It shows that the entire cost of paving is assessed against abutting property owners only in Altoona and Connellsville, while the other extreme, where the municipality bears all the paving cost, exists in Lancaster, Lock Haven, Pottsville and Reading.

Miles of paved streets and yardage in other cities in the tabulation are as follows:

CITY.	MILEAGE.	YARDAGE.
Oil City,	23.07	349,100
Meadville,	16.26	271,616
York,	16.179	.....
Uniontown,	16.15	245,064
Williamsport,	15.31	.....
Bradford,	15.05	234,274
Connellsville,	13.536	.....
Titusville,	10.1	177,760
Lancaster,	10.	156,139
Franklin,	9.4	.....
Carbondale,	7.8	123,052
Pittston,	7.5	.....
Monongahela City,	7.10	119,905
Dubois,	7.0	.....
Corry,	5.6	.....
Hazleton,	5.31	105,217.30
Easton,	5.08	98,247
Lebanon,	3.4	72,000
Lock Haven,	2.2	44,130
Pottsville,	.....	36,450

INDUSTRIAL BOARD APPROVES TWENTY DEVICES FOR INDUSTRIAL SAFETY ON RECOMMENDATION OF COMMITTEE OF APPROVALS. STATE CERTIFICATES HAVE ALREADY BEEN ISSUED FOR FIFTY APPROVED DEVICES.

State certificates of approval have been issued by the Industrial Board for fifty devices for industrial safety, on recommendation of the Committee of Approvals. Approval certificates are issued after a working model of the device has been submitted to the Committee of Approvals with two unmounted photographs of the device and a copy of the approval of a testing laboratory or similar institution of recognized standing. The Committee of Approvals then passes on the device. If it meets the requirements it is recommended to the Industrial Board for a State approval certificate.

A list of thirty approved devices was published in the January Monthly Bulletin of this Department. The remaining twenty approved devices, bearing certificates, numbers from thirty-one to fifty inclusive, are as follows:

No. 31. Waterman-Waterbury Company, Minneapolis, Minnesota.—Sanitary Closet.
No. 32. West Disinfecting Co., New York City.—Sanitary Closet.
No. 33. Fyr-Fyter Company, Philadelphia, Pa.—Fire Extinguisher.
No. 34. Krantz Mfg. Co., Brooklyn, N. Y.—Krantz Safety Autolock Switch.
No. 35. Ready Tool Co., Bridgeport, Conn.—Safety First Belt Shifter.
No. 36. Detroit Fuse & Mfg. Co., Detroit, Michigan.—Safety Electric Two-pole Switch, No. 5252.
No. 37. Bent Rung Ladder Co., Indiana, Pennsylvania.—Re-enforced Ladders.
No. 38. Safety Machinery Co., New York City,—Sewing Machine Guards.
No. 39. Dairy Specialty Co., West Chester, Pennsylvania.—Belt Shifter.
No. 40. Sectional Safety Stop Co., Binghamton, New York.—Planer Guard.
No. 41. National Automatic Door Co., Chicago, Illinois.—Panic Proof Door.
No. 42. Jos. Oshorn, St. Louis, Missouri.—Safety Device for Electrically Driven Tools.
No. 43. Dairy Specialty Co., West Chester, Pennsylvania.—Safety Hopper Car Wrench.
No. 44. Valley City Machine Co., Grand Rapids, Michigan.—Safety Hood for Grinding Wheels.
No. 45. Safety Emery Wheel Co., Springfield, Ohio.—Safety Collar for Emery Wheels.
No. 46. Sargent Co., Chicago, Illinois.—The "Ironclad" Water Glass Protector.
No. 47. Wm. H. Horstmann Co., Philadelphia, Pennsylvania.—Leggings for Metal Workers.
No. 48. Welsbach Street Lighting Co., Philadelphia, Pennsylvania.—Ladders to be Used Only for Lighting, Extinguishing and Cleaning Street Lights.
No. 49. Lagonda Manufacturing Co., Springfield, Ohio.—Automatic Cut-Off Valve.
No. 50. Hobbs Manufacturing Co., Worcester, Massachusetts.—Metal Finger Protectors.

ACTIVITIES OF THE BUREAU OF EMPLOYMENT DURING THE YEAR 1916.

The Bureau of Employment of the Department of Labor and Industry, during the year 1916, placed 16,115 unemployed workers in positions through the five offices of the Bureau at Harrisburg, Philadelphia, Johnstown, Pittsburgh and Altoona.

Employers asked the various offices of the Bureau for 35,314 workers during the year and unemployed persons applying to the Bureau for positions numbered 28,432. Of that number 19,260 applicants were referred to positions for which they were considered suitable with the result that 16,115 found employment.

Requests from employers for workers at all offices of the Bureau of Employment, during the year, exceeded the number of applications for work by 6,882. In only the Philadelphia office did the requests for employment exceed the requests for workers. The excess was 3,914. The Pittsburgh office received requests for 5,184 more workers than had applied to the office for work. In Harrisburg the demand for workers exceeded the supply by 3,284; in Johnstown by 1,172, and in Altoona by 1,156.

The greatest number of workers were placed in employment through the Philadelphia office, 6,994. Pittsburgh ranked second with 5,579 placements. Harrisburg was third with 2,598; Johnstown fourth with 566, and Altoona fifth with 378.

The highest monthly record of requests for workers from employers, made to all offices of the Bureau, was in March when the requests numbered 4,170. The greatest number of applications for positions came from workers in November when 3,193 applied. The greatest number of persons was referred to employers during the month of November when 2,439 applicants were referred to work and in that same month 2,199 applicants found employment.

The Bureau of Employment has turned in to the State Treasury $25,500 in license fees collected from private employment agencies in the State. The appropriation made for Employment Bureau work by the 1915 Legislature was $30,000. Private employment agencies are supervised by the Bureau of Employment and must each pay an annual license fee of $50 and post a bond of $1,000.

The records for the five offices of the Employment Bureau during the entire year of 1916 are:

OFFICES.

	Harrisburg.	Philadelphia.	Johnstown.	Pittsburgh.	Altoona.	Grand Total.
Workers asked for by employers, ...	7,035	9,795	14,528	2,219	1,737	35,314
Workers applying for positions, ...	3,751	13,709	9,344	1,047	581	28,432
Workers referred to positions, ...	3,034	9,023	6,017	769	417	19,260
Workers receiving positions, ...	2,593	6,994	5,579	566	378	16,115

DEVELOPMENT OF THE BUREAU OF EMPLOYMENT IN ITS RELATION TO WOMEN.

By MRS. SAMUEL SEMPLE, Member of the Industrial Board.

The Bureau of Employment of the Department of Labor and Industry, was authorized by the Legislature of 1915, and has so far had its main development in five industrial cities, located on one of the great transportation arteries of the State. From Philadelphia in the east, to Pittsburgh in the west, the line runs; with Harrisburg, Altoona and Johnstown as the intermediate points, where during the last year the State itself has made a beginning in the work of bringing together the "manless job," and the "jobless man." The towns thus selected are so radically different that, taken collectively, they form a most interesting background against which to study this modern effort to serve the individual, general society and organized industry, through statecraft. The work of the Harrisburg branch has been double in character—local in its efforts to supply the need in the city itself; and supervisory, not only in its relation to the other branches, but also, as prescribed by law, to the private employment agencies of the State. These private agencies exist now legally only when licensed by the State, after meeting State requirements, and paying State fees. Private employment agencies are commercial institutions, whose primary concern is profit. In several instances

that point has obscured the ethics of business to such an extent that the supervision of the State has meant the elimination of the agency or a reconstruction of its policies.

So far as the work of this new branch of State Government relates itself to women, this supervisory duty is of great importance. A large proportion of private employment agencies are devoted to the placement of women. This is particularly true concerning domestic service, teaching (teachers' agencies do not, however, come under this Act) and stage work (dramatic agencies). The Employment Bureau of Pennsylvania has endeavored to standardize these agencies in their methods of service; to watch their systems of fees, in fairness to the persons served; to guard against fake service; and—by no means least—to prevent their connection with immoral traffic and purposes. In doing this, the system has worked for the protection of the wage-earning women of the State.

In the initial work of its first year, and with only a small appropriation, it was impossible at once to start up separate departments for women in the offices of the Bureau. However, the Philadelphia office, which is run in co-operation with the Emergency Aid Committee of that city, has had a very efficient women's department from the first. In Harrisburg, the second fiscal year of the Bureau opened with a fully equipped women's department with two clerks in charge. By having two clerks, it is possible to have outside work done when needed, and on a number of occasions, one of these clerks has gone out and made immediate placements by visiting an applicant who could not be reached at once by telephone, and taking her straight to the employer. The clerk in this way was able to supervise the transaction in all its details.

The work for women is only starting but it is hoped that all the offices will soon have separate departments for women. The Altoona office is opening a special women's department, run by an experienced worker in this line.

In Pennsylvania, women already constitute about one-fifth of the industrial workers, and at least as large a proportion of the commercial and clerical workers. Under the system of the general administration of the Employment Bureau, the needs of women cannot adequately be met. In fairness to the female workers of the State, any future appropriation for the Bureau should be sufficient to permit the development of specific work for them in all the district offices.

The records of the Employment Bureau show that, during the last year, women have not been served in the same proportion as men. Aside from the fact that the Bureau has not been financially able to organize special work for women in all its offices, this is also partly

because women have not been fully aware of the opportunity for free service offered them by the Bureau. Selecting one month for inquiry into records, it was found that among the women who came to the Bureau for placement, the largest number desired clerical—chiefly stenographic—positions. Almost balancing this were the applicants for domestic service. The largest proportion of actual placements was among those applying for domestic service. Applications were received also for work as teachers, telephone and telegraph operators, workers in rubber and tobacco, housekeepers, companions, instructors in miscellaneous lines and office clerks.

In Great Britain, public labor exchanges are excluded by law from handling what is classed as "indoor domestic service" (meaning resident domestic service), except where the persons to be placed are under seventeen years of age. Under that limit they may be handled in juvenile placement sections. Under the Pennsylvania law creating a Bureau of Employment in the Department of Labor and Industry, there is no such restriction. In the absence of distinct lines for securing information on this subject, it is impossible to know how many women are engaged in private domestic service in this State. Where informal inquiries have been undertaken, and estimates made by people familiar with local conditions, there has seemed to be ground for the belief that, in the larger towns, the number of women engaged in private domestic service almost equals the number engaged in all other wage earning pursuits. If this is true or even approaches the truth, any public labor exchange that ignored that fact, would manifestly neglect an important duty. Up to the present time there has been a disposition on the part of most such labor exchanges in this country to evade the question of domestic service, in dealing with women. There have been two reasons for this condition. Domestic service is a variation of the world-old ocupation for women, and might therefore be deemed to be in least need of protection from the State; it is also the most individual and therefore the most unstandardized occupation for women, and is consquently the most difficult to handle. But just because such service is traditional—and therefore backward—in its conditions, and unstandardized in its requirements, the way is open for a State labor bureau to give great help to the unorganized women workers in private domestic employment. It is also indisputable that such help would be of great value to the employers of such labor. It would emphasize the need of superior equipment, and help along the development of trained service for the household.

An especially interesting line of work open to the Employment Bureau,—which gave it opportunity to serve some young women as well as a great number of young men, with work requiring special

training,—was the filling of "summer clerkships." These were temporary positions in the department stores, in sales and office work, that were offered particularly to students of the city, colleges and high schools during their summer holiday. The Bureau, as far as was possible with its limited force, used this as an opportunity for vocational inquiry and suggestion.

All employment bureaus come promptly into contact with the "handicap" class of the population. The existence of this class among women workers is more inevitable, and more pardonable, than among men. Women, more often than men, must unexpectedly meet the wage-earning necessity; and yet vocational training, definite apprenticeship, etc., are less frequent for girls than for boys. The woman with a child to support and to make a home for, is a frequent "handicap" case that calls for sympathetic and judicious individual handling on the part of the Employment Bureau. Somewhat more general work for the handicaps which are the result of lack of training can be attempted by a Bureau. In the Philadelphia office, the Emergency Aid Committee conducted a training school for those who need special assistance. A simple business course has been given, with particular emphasis on the points in which applicants for clerical positions are most generally deficient.

Employment work for women is carried on by many philanthropic and semi-philanthropic organizations. The State Bureau is most anxious to work out some plan of co-operation with such centers, that it may co-ordinate all the work in the State which has to do with the placing of women in industry of any kind.

The work of the Employment Bureau in general may be summed up in this way: To conduct a State-wide labor exchange, and thereby help to organize the labor market as any other market is organized under modern methods; to bring into voluntary co-operation with this system, the non-commercial work done to help to equalize the supply and demand for labor; and to standardize, on the highest plane possible, all the commercial work done in the same line. With reference to the work for women, the same statement holds good, with the added importance that comes from the facts that the labor market for women is much farther from standardization that that for men; and that (except in the case of non-English speaking men), women have suffered more than men from unfair charges and moral dangers under the system of unregulated private employment agencies.

Records of the Bureau for December, January and February.

Detailed records of the Bureau of Employment for December, 1916, and the first two months of 1917 are outlined in the following pages.

During December, 1916, there were 2,323 applications for work as against 3,193 in November. Openings were 2,543 in December, as against 3,375 in November. The largest percentages of openings and applications were for laborers 43 per cent. and 24.4 per cent. respectively. The openings next in order were for machine workers, clerks and carpenters. This latter class was only three per cent. of the total number of openings. All other classes are less than two per cent. The applications next in order after laborers, are for clerkships, 6.3 per cent. of the total; machine workers, 5.7 per cent. salesmen, 2.6 per cent.; plumbers, steam and pipe fitters, 2.5 per cent.; all others, less than two per cent.

In the women's departments of the offices, the openings for domestic and personal service were 39.5 per cent.; for clerks, eight per cent. The applications were 36.8 per cent. for domestic and personal service and 1.3 per cent. for clerks. The following tables give the placement work for the various offices of the Bureau of Employment for the month of December:

	Harrisburg.	Philadelphia.	Johnstown.	Pittsburgh.	Altoona.	Grand total.
Number of persons asked for by employers,	254	881	214	1,052	142	2,543
Number of applications for positions,	317	1,139	95	719	53	2,323
Number of persons referred to positions,	198	953	81	542	79	1,858
Number of persons receiving positions,	169	774	76	503	69	1,590

PLACEMENT WORK OF THE HARRISBURG OFFICE FOR DECEMBER.

MEN'S DEPARTMENT.

Classes of work having the highest percentage of openings.

Laborers,	55.9% of the total.
Machine workers,	12.7% of the total.
Salesmen and solicitors,	10.5% of the total.
Clerks,	4.5% of the total.
Farmhands and managers,	2.7% of the total.
Bookkeepers and accountants,	1.8% of the total.
Carpenters,	1.3% of the total.
Electricians,	.9% of the total.
Boiler makers,	.4% of the total.
Waiters, butlers and valets,	.4% of the tital.
Clerks, stenographers and typists,	.2% of the total.

Classes of work having the highest percentage of applicants.

Laborers,	32.6% of the total.
Machine workers,	7.1% of the total.
Salesmen and solicitors,	3.9% of the total.
Clerks,	3.9% of the total.
Bookkeepers and accountants,	2.6% of the total.
Waiters, butlers and valets,	2.6% of the total.
Carpenters,	1.9% of the total.
Electricians,	1.3% of the total.
Woodworkers,	.6% of the total.
Plumbers,	.6% of the total.
Clerks, stenographers and typists,	.1% of the total.

PLACEMENT WORK OF THE HARRISBURG OFFICE FOR DECEMBER.

WOMEN'S DEPARTMENT.

Classes of work having the highest percentage of openings.

Domestic and personal service,	29.5% of the total.
Housekeepers and general houseworkers,	20. % of the total.
Waitresses,	6.6% of the total.

Classes of work having the highest percentage of applications.

Housekeepers and general houseworkers,	30. % of the total.
Clerks,	9.5% of the total.
Domestic and personal service,	9.5% of the total.
Waitresses,	4.7% of the total.

PLACEMENT WORK OF THE PITTSBURGH OFFICE FOR THE MONTH OF DECEMBER.

Classes of work having the highest percentage of orders and applications.

Orders.	Per Cent.	Applications.	Per Cent.
Laborers,	72	Laborers,	35
Trades,	12	Trades,	30
Hotels,	2.5	Hotels,	05
Clerks,	2.5	Miners,	03
Domestics,	4	Clerks,	14
Factory,	4	Domestics,	06
Railways,	Less than 1% each	Factory,	04
Farms,		Railways,	02
Boys,		Farms,	01
Miners,			

PLACEMENT WORK OF THE PHILADELPHIA OFFICE FOR THE MONTH OF DECEMBER.

MEN'S DEPARTMENT.

Classes of work having the highest percentage of orders and applications.

Orders.	Per Cent.	Applications.	Per Cent.
Laborers,	19.2	Laborers,	19.6
Semi-skilled,	32.4	Semi-skilled,	28.9
Skilled,	36.2	Skilled,	38.2
Commercial and sales clerks,	12.2	Commercial and sales clerks,	13.3

WOMEN'S AND GIRL'S DEPARTMENT.

Orders.	Per Cent.	Applications.	Per Cent.
Sales and office clerks,	17.2	Sales and office clerks,	21.8
Domestic and personal service workers,	65.6	Domestic and personal service workers,	59.3
Factory workers,	17.2	Factory workers,	18.9

PLACEMENT WORK FOR ALL OFFICES FOR DECEMBER.

MEN'S DEPARTMENT.

Classes of work having the highest percentage of openings.

Laborers,	43. % of the total.
Machine workers,	4. % of the total.
Clerks, stenographers and typists,	3.2% of the total.
Carpenters,	3.2% of the total.
Salesmen and solicitors,	1.7% of the total.
Waiters, butlers and valets,	1.5% of the total.
Plumbers, steam and pipe fitters,	1.2% of the total.
Bookkeepers and accountants,	.7% of the total.
Moulders,	.6% of the total.
Boiler makers,	.5% of the total.
Painters,	.4% of the total.
Woodworkers,	.4% of the total.
Tailors-Garment workers,	.2% of the total.
Electricians,	.2% of the total.
Cabinet makers,	.1% of the total.
Bricklayers,	.1% of the total.

Classes of work having the highest percentage of applicants.

Laborers,	24.4% of the total.
Clerks, stenographers and typists,	6.3% of the total.
Machine workers,	5.7% of the total.
Salesmen and solicitors,	2.6% of the total.
Plumbers, steam and pipe fitters,	2.5% of the total.
Carpenters,	1.9% of the total.
Bookkeepers and accountants,	1.8% of the total.
Waiters, butlers and valets,	1.6% of the total.

Boilers makers,	.8% of the total.
Farmhands and managers,	.6% of the total.
Painters,	.6% of the total.
Moulders,	.5% of the total.
Tailors,	.4% of the total.
Electricians,	.3% of the total.
Woodworkers,	.1% of the total.
Bricklayers,	.1% of the total.

Aiding Soldiers from the Mexican Border.

During December, the Bureau assisted the Pennsylvania National Guardsmen to secure positions on their return from the Mexican border. The following letter was sent by Director Lightner to Major General Clement:

December 26, 1916.

Major-General Charles M. Clement,
Camp Stewart,
El Paso, Texas.

My dear General:

Having information to the effect that there will be several companies returning home from the border, the State Employment Bureau wishes to be of service to any of the men desiring employment upon their return, hence this letter.

There is no doubt that many of these men desire positions upon their return and that they will be ready to re-enter the ranks of our industries in prime condition to give their employers the same service as they were satisfied to give to their country when they enlisted. For that reason I feel that many manufacturers of our State will respond to the call for openings for these men.

If there are no other arrangements made for finding positions for your men, I should be very much pleased to receive from you the number of men desiring employment upon their return and their trades.

Thanking you for your kind consideration of this matter, I am

Yours very truly,

(signed) JACOB LIGHTNER,
Director.

To this letter, the Director received the following gratifying reply:

Headquarters Seventh Division,
National Guards,
Camp Stewart, El Paso, Texas,

December 20, 1916.

Mr. Jacob Lightner,
Director, Employment Bureau,
Harrisburg, Pa.

Dear Sir:

I note with pleasure your letter that the Bureau of Employment will use its best efforts to find situations for all Pennsylvania troops returning from the boarder.

I will furnish a copy of your letter to all Commanding Officers, with the request that they communicate with you direct in reference to the matter.

Very truly,

(signed) C. M. CLEMENT,
Major-General, N. G.

Employers sent requests for soldiers to fill the openings in their plants. Letters coming from the Border, from the soldiers, solicited the help of the Bureau in advance of their return.

The following reply from the Director to a guardsman is characteristic:

"I have this day received yours of December 9th, and have forwarded it to our Pittsburgh office, 808 Hartje Building, located at No. 14 Wood Street.

"If you will accept a position as street car man in the city of Pittsburgh, when you are mustered out of service, kindly report at that office.

"Kindly inform Mr. Thompson, Superintendent, 808 Hartje Building about when you will be ready to report so that he can be prepared to place you in the position."

Another guardsman who wrote for a position, received the following from Director Lightner:

"As soon as you are mustered out of service, I have an opening for you in the drafting room of a steel corporation."

The reply to this contained the following:

"The favor you have accomplished for me, puts me very much in debt to you, and is not to be lightly considered. You have relieved me of a condition that would have been very difficult, to say the least. For me to secure a position while this distance away from home would have been rather a difficult matter.

"I can find no suitable way at present to express my appreciation but in some future time may be able to return your favor with pleasure."

This young man came to Harrisburg and obtained the position mentioned, at $125 per month.

The Bureau of Employment promises a helpful year for 1917. Now that the tedious work of starting the Bureau is at an end, more rapid progress can be made along the line of its proper duties. So much time was required, during the last year for the systematizing of plans for the work, that the Bureau has yet to show what can really be accomplished in a full year of normal activity.

The month of January, 1917, has on record the highest number of placements yet attained by the Bureau of Employment—2,504. November, 1916, came next with a record of 2,199; September, 1916, was next, with 1,730.

In January, of 1916, there were only three offices in existence:—Harrisburg, Philadelphia and Johnstown. The combined placement work of these offices totalled 457 in January, 1916. In January, 1917, the record for the month for the three offices, was 3,132, or more than six times as many placements. These figures tell the story of the increasing usefulness of the Bureau. The offices are becoming known and being used by a constantly growing number of employers and workers.

In January, 1917, the number of openings for laborers was smaller than in December, 1916, being 27.7 per cent of the total against 43 per cent for December. The percentage of applicants for laboring jobs was about the same, 22.5 and 24.4 for these months, respectively.

Machine workers were in much greater demand in January than in December; the percentages being 10.9 against four. The applicants for this work also increased; 9.1 per cent of the total against 5.7 per cent.

The following table shows these comparisons for the classes of work which were in greatest prominence in January:

MEN'S DEPARTMENT.

	January Percentage.		December Percentage.	
	Openings.	Applicants.	Openings.	Applicants.
Laborers,	27.7	22.5	43	24.4
Machine workers,	10.9	9.1	4	5.7
Salesmen and solicitors,	3.6	3.2	1.7	2.6
Carpenters,	3.6	2.3	3.2	1.9
Clerks, stenographers and typists,	3.6	7.8	3.2	6.3

WOMEN'S DEPARTMENT.

	January Percentage.		December Percentage.	
	Openings.	Applicants.	Openings.	Applicants.
Housekeepers and general house-workers,	35.7	34.9	39.5	36.8
Clerks,	15.8	10.9	8.0	1.3

PLACEMENT WORK OF THE FIVE OFFICES IN JANUARY, 1917.

Harrisburg.

Number of persons asked for by employers,	1,123
Number of applications for positions,	467
Number of persons referred to positions,	313
Number of persons receiving positions,	268

Philadelphia.

Number of persons asked for by employers,	1,838
Number of applications for positions,	2,008
Number of persons referred to positions,	1,655
Number of persons receiving positions,	1,438

Johnstown.

Number of persons asked for by employers,	171
Number of applications for positions,	85
Number of persons referred to positions,	73
Number of persons receiving positions,	59

Pittsburgh.

Number of persons asked for by employers,	883
Number of applications for positions,	945
Number of persons referred to positions,	687
Number of persons receiving positions,	633

Altoona.

Number of persons asked for by employers,	248
Number of applications for positions,	119
Number of persons referred to positions,	101
Number of persons receiving positions,	97

PLACEMENT WORK OF THE HARRISBURG OFFICE FOR THE MONTH OF JANUARY, 1917.

MEN'S DEPARTMENT.

Classes of work having the highest percentage of openings.

Laborers,	19.5% of the total.
Machine workers,	15.8% of the total.
Salesmen and solicitors,	10.7% of the total.
Carpenters,	4.1% of the total.
Bricklayers and makers,	3.9% of the total.
Clerks, stenographers and typists,	3.1% of the total.
Farmhands and managers,	2.3% of the total.
Painters,	.9% of the total.
Electricians,	.7% of the total.
Bookkeepers and accountants,	.1% of the total.

Classes of work having the highest percentage of applicants.

Laborers,	30.2% of the total.
Farmhands and managers,	13.1% of the total.
Clerks, stenographers and typists,	9.2% of the total.
Machine workers,	6.1% of the total.
Salesmen and solicitors,	2.6% of the total.
Electricians,	2.1% of the total.
Bookkeepers and accountants,	1.7% of the total.
Carpenters,	1.7% of the total.
Bricklayers and makers,	.8% of the total.
Painters,	.4% of the total.
Plumbers, steam and pipe fitters,	.4% of the total.

PLACEMENT WORK OF THE HARRISBURG OFFICE FOR THE MONTH OF JANUARY, 1917.

WOMEN'S DEPARTMENT.

Classes of work having the highest percentage of openings.

Housekeepers and general houseworkers,	36.4% of the total.
Machine operators,	34.4% of the total.
Nurses,	2.7% of the total.
Day's workers,	1.2% of the total.
Waitresses,	.8% of the total.
Clerical positions,	.4% of the total.
Commercial,	.2% of the total.

Classes of work having the highest percentage of applicants.

Housekeepers and general houseworkers,	50. % of the total.
Nurses,	3. % of the total.
Day's workers,	2. % of the total.
Waitresses,	1. % of the total.
Clerical positions,	.7% of the total.
Commercial,	.2% of the total.
Machine operators,	.1% of the total.

PLACEMENT WORK OF THE PHILADELPHIA OFFICE ACCORDING TO CLASS OF OCCUPATION.

MEN'S DEPARTMENT.

Total number of applicants asked for by employers,		1,760
Number laborers,	324 or 18.2% of the total.	
Number semi-skilled workers,	437 or 24.5% of the total.	
Number skilled workers,	753 or 42.4% of the total.	
Number technical workers,	7 or .5% of the total.	
Number clerical workers (comm. and sales),	239 or 14.3% of the total.	
Total number applicants registering for positions,		996
Number laborers,	146 or 14.6% of the total.	
Number semi-skilled workers,	220 or 22.1% of the total.	
Number skilled workers,	449 or 45.1% of the total.	
Number technical workers,	3 or .4% of the total.	
Number clerical workers (comm. and sales),	178 or 17.8% of the total.	

WOMEN'S AND GIRL'S DEPARTMENT.

Total number applicants asked for by employers,		285
Number sales and office workers,	89 or 31.2% of the total.	
Number domestic and personal service,	162 or 56.8% of the total.	
Number factory workers,	34 or 12 % of the total.	
Total number applicants registering for positions,		176
Number sales and office workers,	52 or 29.5% of the total.	
Number domestic and personal service,	78 or 44.3% of the total.	
Number factory workers,	46 or 26.2% of the total.	

PLACEMENT WORK OF THE PITTSBURGH OFFICE ACCORDING TO CLASS OF OCCUPATION.

Classes of work having the highest percentage of openings.

Trades,	39%
Labor,	30%
Hotels,	14%
Restaurants,	
Domestics,	9%
Clerks,	5%
Miners, less than,	1%
Farm hands, less than,	1%
Boys, less than,	1%
Factory, less than,	1%

Classes of work having the highest percentage of applicants.

Labor,	37%
Trades,	23%
Clerks,	17%
Factory,	8%
Hotels,	9%
Domestics,	6%

Miners, less than,	1%
Boys, less than,	1%
Railway workers, less than,	1%
Farm hands, less than,	1%

PLACEMENT WORK FOR ALL OFFICES, JANUARY, 1917.
MEN'S DEPARTMENT.

Classes of work having the highest percentage of openings.

Laborers,	27.7% of the total.
Machine workers,	10.9% of the total.
Salesmen and solicitors,	3.6% of the total.
Carpenters,	3.6% of the total.
Clerks, stenographers and typists,	3.6% of the total.
Plumbers, steam and pipe fitters,	1.4% of the total.
Bricklayers and makers,	1.3% of the total.
Farm hands and managers,	1. % of the total.
Bookkeepers and accountants,	.9% of the total.
Painters,	.8% of the total.
Electricians,	.6% of the total.

Classes of work having the highest percentage of applicants.

Laborers,	22.5% of the total.
Machine workers,	9.1% of the total.
Clerks, stenographers and typists,	7.8% of the total.
Salesmen and solicitors,	3.2% of the total.
Farm hands and managers,	2.8% of the total.
Carpenters,	2.3% of the total.
Bookkeepers and accountants,	1.9% of the total.
Plumbers, steam and pipe fitters,	1.8% of the total.
Electricians,	1.6% of the total.
Painters,	1.1% of the total.
Bricklayers and makers,	.1% of the total.

PLACEMENT WORK OF THE WOMEN'S DEPARTMENT OF THE HARRISBURG AND PHILADELPHIA OFFICES FOR THE MONTH OF JANUARY, 1917.

Classes of work having the highest percentage of openings.

Housekeepers and general houseworkers,	35.7% of the total.
Clerical positions,	15.8% of the total.
Machine operators,	12.6% of the total.
Commercial,	6. % of the total.
Waitresses,	5.3% of the total.
Day's workers,	4.3% of the total.
Nurses,	.9% of the total.
Companions,	.2% of the total.

Classes of work having the highest percentage of applicants.

Housekeepers and general houseworkers,	34.9% of the total.
Clerical positions,	10.9% of the total.
Day's workers,	7.6% of the total.
Commercial,	7.1% of the total.
Waitresses,	5.7% of the total.
Nurses,	2.8% of the total.
Machine operators,	2.3% of the total.
Companions,	1.4% of the total.

The applications and orders for employes received at the Bureau of Employment during the month of February, indicate a steady trend toward higher class applicants, and better paying positions open for applicants. It is becoming generally known that the Employment Bureau is not limited in its actitivities to working as a Clearing House for the turnover in the unskilled labor proposition, but also received applications from the most highly skilled and technical men in the industrial and commercial fields.

The employers are beginning to know that in the files of the Bureau may be found names of workmen skilled as carpenters, masons, and machinists. The records range from those who can merely operate a punch press or a lathe machine, up to high skilled toolmakers. Not only are employers and employes gaining a wider knowledge of these facts, but they are making use of this knowledge to enlist the services of the Bureau in filling their wants.

A certain corporation during the month, sought the services of the Bureau in securing a foreman for a rolling mill; several boss rollers; a heater; and several heaters' helpers.

Another corporation made use of the Bureau to secure machinists, boring mill hands, lathe operators, milling machine hands, and an erecting mechanic.

In the personal and professional lines of employment, a corporation sought the services of the Bureau to secure a physician to look after the health of more than 7,000 employes.

When it is considered that the Bureau can from its files secure an applicant for such lines of work, it will be seen that the functions of the Bureau are bringing it more nearly to what it was intended to be—a clearing house for employers and employes.

During the month, the Bureau started the first systematic effort made in the State to secure help for farmers. Through correspondence and in other ways, it has been made known to the farmers that the Bureau might be used for the purpose of securing such help as

they need during the summer. The result has been that there are a number of desirable farm openings in the Bureau for men to act as laborers, renters, tenants, managers, and workers on shares.

There is the usual demand among industrial and manufacturing concerns of the State for highly skilled mechanics of all kinds and at attractive wages.

PLACEMENT WORK OF THE STATE EMPLOYMENT BUREAU, FEBRUARY, 1917.

Harrisburg.

Number of persons asked for by employers,	375
Number of applications for positions,	302
Number of persons referred to positions,	268
Number of positions filled,	223

Philadelphia.

Number of persons asked for by employers,	1,173
Number of applications for positions,	1,336
Number of persons referred to positions,	1,132
Number of positions filled,	953

Pittsburgh.

Number of persons asked for by employers,	606
Number of applications for positions,	750
Number of persons referred to positions,	459
Number of positions filled,	499

Johnstown.

Number of persons asked for by employers,	177
Number of applieations for positions,	99
Number of persons referred to positions,	78
Number of positions filled,	64

Altoona.

Number of persons asked for by employers,	229
Number of applications for positions,	68
Number of persons referred to positions,	54
Number of positions filled,	50

Grand Totals for all Offices.

Number of persons asked for by employers,	2,560
Number of applications for positions,	2,555
Number of persons referred to positions,	1,991
Number of positions filled,	1,789

PLACEMENT WORK OF THE HARRISBURG OFFICE, FOR THE MONTH OF FEBRUARY, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Those receiving positions.

Class.	Per Cent.
Labor,	30.9
Clerical and commercial,	3.8
Semi-skilled,	3.8
Skilled,	60.3
Technical and professional,	1.0

WOMEN'S AND GIRL'S DEPARTMENT.

Those receiving positions.

Class.	Per Cent.
Domestic and personal,	45.3
Day's work,	42.1
Commercial and clerical,	9.3
Factory work,	3.1

PLACEMENT WORK OF THE PHILADELPHIA OFFICE, FOR THE MONTH OF FEBRUARY, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Those receiving positions.

Class.	Per Cent.
Labor,	9.9
Clerical and commercial,	17.4
Semi-skilled,	29.8
Skilled,	42.0
Technical and professional,	.9

WOMEN'S AND GIRL'S DEPARTMENT.

Those receiving positions.

Class.	Per Cent.
Clerical and commercial,	22.6
Domestic and personal,	40.0
Factory work,	37.4

PLACEMENT WORK OF THE PITTSBURGH OFFICE, FOR THE MONTH OF FEBRUARY, ACCORDING TO CLASSES OF OCCUPATIONS.

Those receiving positions.

Class.	Per Cent.
Labor,	28.0
Semi-skilled,	12.0
Skilled,	44.0

Clerical and commercial,	10.0
Domestic service,	5.0
Technical and professional,	.4

AN IMPRESSION OF THE BUREAU OF EMPLOYMENT.

The following is a copy of an editorial which appeared in the "OUTLOOK" of February 21, 1917:

COUPLING UP THE MAN AND THE JOB.

One year ago the State of Pennsylvania created an employment bureau as an adjunct to the State Department of Labor and Industry. The State Commissioner of Labor, John Price Jackson, was given wide authority and wider jurisdiction to carry on the work of the new bureau, which was placed under the immediate supervision of Jacob Lightner. Director Lightner's first step was to try to couple up the man and the job and so relieve the unemployed. An office was opened in Harrisburg, the State Capital, to serve as a State clearing-house for labor. Other offices were opened at Philadelphia, Pittsburgh, Johnstown and Altoona; still other offices will be opened in other mining and manufacturing regions as fast as possible.

Employers wishing to secure workers and workers looking for jobs fill out blanks, which are forwarded to the clearing-house at Harrisburg, and suitable applicants are put in touch with the proper employers.

The success of the plan was instantaneous. For instance, the Pittsburgh office was opened at nine o'clock on the morning of March first. By noon more than one hundred and fifty applicants had appeared at the office. Eight industrial plants in the Pittsburgh district at once got into touch with the bureau, asking for fifteen hundred employes.

At the end of September the new bureau had been in operation eleven months. During this period more than thirty thousand workers were asked for, more than twenty-four thousand workers applied for jobs, and more than eleven thousand of them found work. In short, more than forty-seven per cent. of those seeking work were placed.

Of course, the bureau was instituted at a favorable time. Employers are crying out for workers. Yet the fact that, in spite of the boom in industry, twenty-four thousand men wanted work indicates that the bureau was needed. A State employment system that covers the entire State can couple up the man and the job in a way that no strictly private employment agency can hope to equal. The bureau is empowered to study into the causes of unemployment. So far it has been too busy getting jobs for the jobless to delve very deeply into the matter of unemployment. But it has demonstrated one thing very clearly; the matter of unemployment is more or less a matter of poor labor distribution.

Although the law creating this labor bureau is "advanced legislation," Pennsylvania is by no means the first State to create a State employment bureau. But Pennsylvania is at once a great manufacturing and a great agricultural State, and it is interesting to observe how the measure is working. As we swing further and further away from the idea that government is merely a policeman, and understand that government is rightfully an agent for promoting human welfare, we may expect to see public employment bureaus in every State. There is already a Federal employment bureau. When the time comes that this shall serve as a central clearing-house for the workers of the United States, there will no longer be difficulty in securing necessary labor for wheat-field, apple orchard, and factory, and the problem of unemployment will in part be solved.

BUREAU OF STATISTICS AND INFORMATION CLASSIFIES 2,670 FATAL INDUSTRIAL ACCIDENTS DURING 1916, IN PENNSYLVANIA, ACCORDING TO INDUSTRY, CAUSE, NATURE OF INJURY, SEX AND SOCIAL CONDITION OF VICTIMS, AND COUNTIES IN WHICH FATALITIES OCCURRED.

Classification of complete records of 2,670 fatal industrial accidents reported during 1916 has been made by the Bureau of Statistics and Information. The tables on the following pages show definitely, for each of the twelve months of 1916, the number of fatalities in each industry and the counties in which the accidents occurred. The cause of each accident and the nature of injury inflicted is also specified, as well as the sex of the victim, whether or not the victims were married, the number of dependents, and whether the fatalities occurred in general industries, in mines or in public service work.

The twelve tables present the final records of the fatal accident reports distributed through the months in which the accidents occurred. Lists previously published have been modified by the complete compilation for the year and re-distribution of the accident reports.

The greatest number of fatalities in Pennsylvania industries occurred during the month of September when 278 workers were killed. The lowest record of the year was during May when 164 workers were killed in industry. The death record for each month is as follows:—January, 215; February, 237; March, 254; April, 177; May, 164; June, 169; July, 209; August, 231; September, 278; October, 266; November, 230; December, 240.

The complete tables for each month are as follows:

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING JANUARY, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Electrical construction.	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Painting and decorating,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Roofing and sheet metal work,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Structural iron work (erecting),	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Chemicals,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....
Fertilizers,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Fireworks,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Oils—Essential,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....
Powder and other explosives,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	1
Brick,	3	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Cement,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Glass—plate,	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glass—window,	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2
Hosiery and knit goods,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Ice,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Slaughtering and meat packing,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Leather, tanned, curried, etc.,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Liquors—malt,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carriages, wagons and parts,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Lumber and timber products,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Curtains,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Billets, blooms and slabs,	3	.....	.....	.....	1	4	.....	.....	.....	1	1	7	.....	.....	.....	.....	.....	1
Boilers, tanks and stacks,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Bolts, nuts and rivets,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	2
Castings—iron and steel,	2	.....	1	.....	.....	.....	.....	.....	.....	1	.....	3	.....	2	.....	.....	.....	.....
Engines—railroad,	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Fire arms and ammunition,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Hardware and specialties,	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Ingots—iron and steel,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Iron—pig,	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....
Machinery and parts,	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Nails and spikes,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Pipes and tubing,	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	1
Plates—iron and steel,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Shapes—structural,	1	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1
Smelting and refining,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Tin and terne plate,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Wire products,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Ore—iron,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Stone,	.....	.....	2	.....	.....	1	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....
Coal—anthracite,	3	11	33	1	1	9	.....	.....	.....	5	3	27	5	19	.....	.....	1	8
Coal—bituminous,	.....	5	22	1	.....	12	.....	.....	.....	2	2	16	2	16	.....	.....	.....	6
Public Service,	2	1	3	1	.....	26	.....	.....	.....	4	1	21	1	7	.....	.....	1	6
Miscellaneous,	1	.....	.....	2	.....	3	.....	.....	.....	1	.....	4	.....	2	.....	.....	.....	1
Hotels and restaurants,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Totals,	23	23	69	15	3	62	.....	.....	.....	20	9	95	12	57	.....	.....	2	40

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING JANUARY, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public Service.			
Electrical construction,	2	.....	2	.....	1	2	.....	.....	2	Allegheny,	25
Painting and decorating,	1	.....	.....	1	.....	1	.....	.....	1	Armstrong,	7
Roofing and sheet metal work,	1	.....	1	.....	3	1	.....	.....	1	Beaver,	2
Structural iron work (erecting),	1	.....	1	.....	4	1	.....	.....	1	Berks,	6
Chemicals,	1	.....	1	.....	1	1	.....	.....	1	Bradford,	2
Fertilizers,	1	.....	1	.....	3	1	.....	.....	1	Cambria,	13
Fireworks,	1	.....	1	.....	1	1	.....	.....	1	Carbon,	3
Oils—Essential,	1	.....	1	.....	.....	1	.....	.....	1	Chester,	1
Powder and other explosives,	1	.....	1	.....	5	1	.....	.....	1	Clearfield,	2
Brick,	3	.....	1	2	.....	3	.....	.....	3	Clinton,	1
Cement,	1	.....	.....	1	.....	1	.....	.....	1	Crawford,	1
Glass—plate,	1	.....	1	.....	.....	1	.....	.....	1	Cumberland,	1
Glass—window,	1	.....	.....	1	.....	1	.....	.....	1	Dauphin,	5
Hosiery and knit goods,	.....	2	1	1	5	2	.....	.....	2	Delaware,	4
Ice,	1	.....	1	.....	.....	1	.....	.....	1	Elk,	1
Slaughtering and meat packing,	1	.....	1	.....	.....	1	.....	.....	1	Erie,	2
Leather, tanned, curried, etc.,	1	.....	.....	1	.....	1	.....	.....	1	Fayette,	8
Liquors—malt,	1	.....	.....	1	.....	1	.....	.....	1	Franklin,	1
Carriages, wagons and parts,	1	.....	1	.....	.....	1	.....	.....	1	Huntingdon,	3
Lumber and timber products,	2	.....	2	.....	1	2	.....	.....	2	Indiana,	4
Curtains,	1	.....	1	.....	4	1	.....	.....	1	Lackawanna,	12
Billets, blooms and slabs,	9	.....	6	3	17	9	.....	.....	9	Lancaster,	1
Boilers, tanks and stacks,	1	.....	1	.....	.....	1	.....	.....	1	Lawrence,	1
Bolts, nuts and rivets,	1	.....	1	.....	2	1	.....	.....	1	Lebanon,	1
Castings—iron and steel,	4	.....	4	.....	10	4	.....	.....	4	Lehigh,	3
Engines—railroad,	2	.....	2	.....	.....	2	.....	.....	2	Luzerne,	24

Fire arms and ammunition,	1	.....	1	.....	1	1	.....	.....	1
Hardware and specialties,	2	.....	2	.....	.....	2	.....	.....	2
Ingots—iron and steel,	1	.....	1	.....	2	1	.....	.....	1
Iron—pig,	2	.....	2	.....	7	2	.....	.....	2
Machinery and parts,	2	.....	1	1	3	2	.....	.....	2
Nails and spikes,	1	.....	1	.....	3	1	.....	.....	1
Pipes and tubing,	2	.....	2	.....	1	2	.....	.....	2
Plates—iron and steel,	1	.....	1	.....	1	1	.....	.....	1
Shapes—structural,	2	1	2	1	.....	3	.....	.....	3
Smelting and refining,	1	.....	1	.....	.....	1	.....	.....	1
Tin and terne plate,	1	.....	1	.....	1	1	.....	.....	1
Wire products,	1	.....	1	.....	5	1	.....	.....	1
Ore—Iron,	1	.....	.....	1	.....	.....	1	.....	1
Stone,	3	.....	2	1	3	.....	3	.....	3
Coal—anthracite,	63	.....	40	23	84	.....	63	.....	63
Coal—bituminous,	42	.....	26	16	58	.....	42	.....	42
Public Service,	37	.....	30	7	37	.....	.....	37	37
Miscellaneous,	7	.....	4	3	8	7	.....	.....	7
Hotels and restaurants,	1	.....	1	.....	3	1	.....	.....	1
Totals,	212	3	151	64	274	69	109	37	215

Lycoming,	2
Mifflin,	1
Montgomery,	1
Northampton,	6
Northumberland,	5
Perry,	1
Philadelphia,	19
Pike,	3
Schuylkill,	21
Snyder,	1
Somerset,	1
Venango,	2
Washington,	8
Wayne,	3
Westmoreland,	6
York,	1
	215

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING FEBRUARY, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Brick, cement and stone work,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Building construction,	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	1	.....	.....	.....	1
Chemicals,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Oils—essential,	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Powder and other explosives,	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Brick,	1	.....	1	.....	.....	1	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....
Cement,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Pottery, terra cotta, etc.,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Shirts,	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
Ice,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Leather—sole,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Trunks and suit cases,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Planing mill products,	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	1	.....	.....	.....	.....
Paper goods not specified,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Woolen, worsted and felt goods,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Bars—iron and steel,	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	1
Billets, blooms and slabs,	4	1	4	1	.....	4	.....	.....	.....	1	1	5	2	6	.....	.....	.....	1
Cars and car wheels,	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
Castings—iron and steel,	1	.....	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1
Fire escapes,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Iron—pig,	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2
Machinery and parts,	.....	.....	.....	.....	1	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Saws,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Shapes—structural,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Tin and terne plate,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Wire products,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....

Ore—iron,	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
Slate—other than roofing,	1	.....	1	3	.....	.....	.....	.....	.....	.....	.....	.....	3	2	.....	.....	.....	.....	2
Stone,	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Stone—crushed,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12
Coal—anthracite,	2	15	22	4	1	5	.....	.....	.....	7	3	16	2	13	.....	.....	.....	.....	22
Coal—bituminous,	.....	30	21	.....	.....	10	.....	.....	.....	4	5	26	1	11	.....	.....	.....	.....	5
Public service,	.....	2	4	.....	.....	26	.....	.....	.....	1	1	19	3	5	.....	.....	.....	.....	2
Miscellaneous,	1	2	1	7	.....	.....	.....	.....	.....	2	1	4	2	4	.....	.....	.....	.....	1
Hotels and restaurants,	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Jobbers and wholesalers,	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	1
Municipalities,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	
Totals,	19	53	61	22	2	54	.....	.....	.....	26	12	89	14	53	.....	.....	.....	.....	69

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING FEBRUARY, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public Service.			
Brick, cement and stone work,	1	.....	1	.....	2	1	.....	.....	1	Allegheny,	29
Building construction,	3	.....	3	.....	5	3	.....	.....	3	Armstrong,	3
Chemicals,	1	.....	1	.....	3	1	.....	.....	1	Beaver,	2
Oils—essential,	2	.....	.....	2	.....	2	.....	.....	2	Blair,	1
Powder and other explosives,	2	.....	1	1	5	2	.....	.....	2	Bradford,	1
Brick,	3	.....	2	1	.....	3	.....	.....	3	Butler,	1
Cement,	1	.....	1	.....	2	1	.....	.....	1	Cambria,	11
Pottery, terra cotta, etc.,	1	.....	1	.....	2	1	.....	.....	1	Cameron,	2
Shirts,	.....	2	2	.....	6	2	.....	.....	2	Carbon,	3
Ice,	1	.....	1	.....	2	1	.....	.....	1	Centre,	2
Leather—sole,	1	.....	1	.....	1	1	.....	.....	1	Chester,	2
Trunks and suit cases,	1	.....	1	.....	.....	1	.....	.....	1	Clearfield,	4
Planing mill products,	2	.....	1	1	.....	2	.....	.....	2	Columbia,	1
Paper goods not specified,	1	.....	.....	1	.....	1	.....	.....	1	Crawford,	1
Woolen, worsted and felt goods,	.....	1	.....	1	.....	1	.....	.....	1	Dauphin,	4
Bars—iron and steel,	2	.....	2	.....	2	2	.....	.....	2	Delaware,	2
Billets, blooms and slabs,	15	.....	11	4	15	15	.....	.....	15	Erie,	6
Cars and car wheels,	2	.....	2	.....	5	2	.....	.....	2	Fayette,	4
Castings—iron and steel,	3	.....	1	2	2	3	.....	.....	3	Indiana,	30
Fire escapes,	1	.....	1	.....	.....	1	.....	.....	1	Jefferson,	1
Iron—pig,	2	.....	1	1	.....	2	.....	.....	2	Lackawanna,	12
Machinery and parts,	3	.....	2	1	.....	3	.....	.....	3	Lancaster,	1
Saws,	1	.....	1	.....	.....	1	.....	.....	1	Lawrence,	1
Shapes—structural,	1	.....	1	.....	2	1	.....	.....	1	Lebanon,	1
Tin and terne-plate,	1	.....	1	.....	.....	1	.....	.....	1	Lehigh,	4
Wire products,	1	.....	1	.....	2	1	.....	.....	1	Luzerne,	33

Ore—iron,	2	.....	2	.....	.....	.....	2	.....	2	Lycoming,	2
Slate—other than roofing,	5	.....	4	1	1	.....	5	.....	5	McKean,	2
Stone,	2	.....	.....	2	.....	.....	2	.....	2	Mercer,	1
Stone—crushed,	1	.....	.....	1	.....	.....	1	.....	1	Montgomery,	7
Coal—anthracite,	56	.....	45	11	58	.....	56	.....	56	Northampton,	9
Coal—bituminous,	65	.....	43	22	87	.....	65	.....	65	Northumberland,	3
Public service,	33	.....	24	9	16	.....	.....	33	33	Philadelphia,	22
Miscellaneous,	13	.....	12	1	6	13	.....	.....	13	Schuylkill,	11
Hotels and restaurants,	2	.....	.....	2	.....	2	.....	.....	2	Somerset,	5
Jobbers and wholesalers,	2	.....	1	1	.....	2	.....	.....	2	Susquehanna,	1
Municipalities,	1	.....	1	.....	.....	.....	.....	1	1	Warren,	2
										Washington,	4
										Westmoreland,	6
Totals,	234	3	172	65	224	72	131	34	237		237

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Brick, cement and stone work,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Building construction,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Electrical construction,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Plumbing and heating,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Railway construction,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Structural iron work erecting,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Charcoal,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Chemicals,	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	1
Oils—essential,	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Paints and varnishes,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Powder and other explosives,	.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	1
Brick.	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Cement,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Underwear,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Flour and grist mill products,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Slaughtering and meat packing,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Lumber and timber products,	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....
Printing and publishing,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Carpets and rugs,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Woolen, worsted and felt goods,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Billets, blooms and slabs,	5	.....	3	.....	.....	2	.....	.....	.....	1	.....	8	.....	2	.....	.....	.....	1
Cars and car wheels,	.....	.....	.....	2	.....	1	.....	.....	.....	.....	.....	2	.....	1	.....	.....	.....	.....
Castings—iron and steel,	1	.....	.....	1	.....	2	.....	.....	.....	1	.....	2	.....	.....	.....	.....	.....	3
Engines—stationary,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Forgings—iron and steel,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Hardware and specialties,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....

Iron—pig,	1		1	1		2				1		1	1	3				1
Machinery and parts,	1				1							2						
Machine repair shops,		1						1			2							
Pipes and tubing,	1													1				
Plates—iron and steel,				1									1					
Pulleys, hangers and bearings,										1								1
Railroad supplies,			1									1						
Rods—steel in coils,		1		2							1			2				
Shapes—structural,				1		1				1		2		1				
Sheets,										1								1
Ore—iron,			1											1				
Slate—roofing,			1											1				
Stone,			2											2				
Coal—anthracite,	3	14	31	1	1	12				6	3	28		17			2	18
Coal—bituminous,	1		24	1	1	13				8		27	2	11				8
Public Service,	2	5	2			33				6	5	27	4	4				8
Miscellaneous,	2		2	2	1	2				1		3		3				4
Hotels and restaurants,										1								1
Mercantile establishments,				3										3				
Jobbers and wholesalers,										1								1
Municipalities,				2		2						1		2				1
Totals,	20	27	72	21	4	75		1		34	15	116	9	58			2	54

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING MARCH, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public Service.			
Brick, cement and stone work,	1	.....	1	.....	2	1	.....	.....	1	Allegheny,	41
Building construction,	1	.....	1	.....	.....	1	.....	.....	1	Armstrong,	1
Electrical construction,	1	.....	1	.....	5	1	.....	.....	1	Beaver,	1
Plumbing and heating,	1	.....	.....	1	.....	1	.....	.....	1	Bedford,	1
Railway construction,	1	.....	.....	1	.....	1	.....	.....	1	Berks,	1
Structural iron work erecting,	1	.....	.....	1	.....	1	.....	.....	1	Blair,	4
Charcoal,	1	.....	1	.....	2	1	.....	.....	1	Cambria,	5
Chemicals,	2	.....	2	.....	2	2	.....	.....	2	Cameron,	1
Oils—essential,	2	.....	2	.....	.....	2	.....	.....	2	Carbon,	4
Paints and varnishes,	1	.....	1	.....	3	1	.....	.....	1	Center,	2
Powder and other explosives,	2	.....	1	1	2	2	.....	.....	2	Chester,	2
Brick,	1	.....	.....	1	.....	1	.....	.....	1	Clearfield,	4
Cement,	1	.....	1	.....	.....	1	.....	.....	1	Clinton,	1
Underwear,	1	.....	.....	1	.....	1	.....	.....	1	Columbia,	1
Flour and grist mill products,	1	.....	.....	1	.....	1	.....	.....	1	Dauphin,	7
Slaughtering and meat packing,	1	.....	1	.....	1	1	.....	.....	1	Delaware,	1
Lumber and timber products,	2	.....	.....	2	.....	2	.....	.....	2	Elk,	2
Printing and publishing,	1	.....	1	.....	.....	1	.....	.....	1	Erie,	4
Carpets and rugs,	1	.....	.....	1	.....	1	.....	.....	1	Fayette,	11
Woolen, worsted and felt goods,	1	.....	1	.....	1	1	.....	.....	1	Greene,	1
Billets, blooms and slabs,	11	.....	5	6	17	11	.....	.....	11	Huntingdon,	2
Cars and car wheels,	3	.....	1	2	2	3	.....	.....	3	Indiana,	11
Castings—iron and steel,	5	.....	3	2	5	5	.....	.....	5	Jefferson,	2
Engines—stationary,	1	.....	1	.....	2	1	.....	.....	1	Juniata,	2

Forgings—iron and steel,	1	.....	1	.....	.....	1	.....	.....	1	Lackawanna,	11
Hardware and specialties,	1	.....	1	.....	.....	1	.....	.....	1	Lancaster,	2
Iron—pig,	6	.....	3	3	6	6	.....	.....	6	Lawrence,	2
Machinery and parts,	2	.....	2	.....	.....	2	.....	.....	2	Lebanon,	1
Machine repair shops,	2	.....	2	.....	.....	2	.....	.....	2	Lehigh,	1
Pipes and tubing,	1	.....	1	.....	1	1	.....	.....	1	Luzerne,	34
Plates—iron and steel,	1	.....	1	.....	2	1	.....	.....	1	Lycoming,	3
Pulleys, hangers and bearings,	1	.....	.....	1	.....	1	.....	.....	1	Mercer,	1
Railroad supplies,	1	.....	1	.....	.....	1	.....	.....	1	Mifflin,	2
Rods—steel in coils,	3	.....	2	1	5	3	.....	.....	3	Montgomery,	6
Shapes—structural,	3	.....	2	1	2	3	.....	.....	3	Northampton,	12
Sheets,	1	.....	1	.....	3	1	.....	.....	1	Northumberland,	5
Ore—iron,	1	.....	.....	1	.....	.....	1	.....	1	Philadelphia,	20
Slate—roofing,	1	.....	1	.....	5	.....	1	.....	1	Schuylkill,	23
Stone,	2	.....	1	1	3	.....	2	.....	2	Susquehanna,	1
Coal—anthracite,	68	.....	38	30	88	.....	68	.....	68	Tioga,	1
Coal—bituminous,	48	.....	32	16	56	.....	48	.....	48	Venango,	2
Public Service,	48	.....	26	22	50	.....	.....	48	48	Washington,	2
Miscellaneous,	10	.....	4	6	2	10	.....	.....	10	Westmoreland,	13
Hotels and restaurants,	1	.....	.....	1	.....	1	.....	.....	1		
Mercantile establishments,	3	.....	1	2	2	3	.....	.....	3		
Jobbers and wholesalers,	1	.....	1	.....	3	1	.....	.....	1		
Municipalities,	3	1	3	1	1	.....	.....	4	4		
Totals,	253	1	148	106	274	82	120	52	254	.....	254

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING APRIL, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Building construction,	1								1									2
Paving and road construction,			1									1		1				
Plumbing and heating,				1														
Roofing and sheet metal work,				2								1		1				
Chemicals,									1		1							1
Gas,		1											1					
Grease and tallow,				1								1						1
Paints and varnishes,						1												1
Powder and other explosives,		1										1		1				
Brick,	2																	1
Cement,	1											1			1			
Bread and other bakery products,					1									1				
Flour and grist mill products,						1						1						1
Lumber and timber products,			1	1								1						
Planing mill products,				1								1						
Wall paper,						1												1
Cotton goods,				1														1
Woolen, worsted and felt goods,										1				1				
Automobiles and parts,				1														
Billets, blooms and slabs,	1	7	4	1	1	5				1	7	5	2	5			1	
Boilers, tanks and stacks,			1									1						
Brass and bronze products,					1									1				
Cars and car wheels,	1			1	1					2		3	1	1				
Castings—iron and steel,				1						1				2				
Engines—railroad,	1		1			1						2		1				

Forgings—iron and steel,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Hoops, bands and cotton ties,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Nails and spikes,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Plates—iron and steel,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Pumps and valves,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....
Rods—steel, in coils,	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Safes, vaults and locks,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Tin and terne plate,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Ware-enameled and galvanized,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Garages—making repairs,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Sand and gravel,	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Coal—anthracite,	2	9	14	1	1	9	.....	.....	.....	.....	2	15	2	9	.....	.....	.....	.....	8
Coal—bituminous,	.....	.....	23	2	2	4	.....	.....	.....	1	.....	19	1	9	.....	.....	.....	.....	3
Public Service,	1	1	.....	2	.....	20	1	.....	.....	2	1	16	4	3	.....	.....	.....	.....	3
Miscellaneous,	.....	1	2	9	1	1	.....	.....	.....	.....	1	4	1	3	.....	.....	.....	.....	5
Mercantile establishments,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Municipalities,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals,	11	23	50	27	10	44	1	.....	2	10	12	76	13	44	1	.....	1	30	

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING APRIL, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines	Public Service.			
Building construction,	2	.....	1	1	.....	2	.....	.....	2	Allegheny,	33
Paving and road construction,	1	.....	.....	1	.....	1	.....	.....	1	Armstrong,	3
Plumbing and heating,	1	.....	1	.....	3	1	.....	.....	1	Beaver,	2
Roofing and sheet metal work,	2	.....	1	1	.....	2	.....	.....	2	Berks,	2
Chemicals,	1	.....	1	.....	1	1	.....	.....	1	Blair,	1
Gas,	1	.....	1	.....	.....	1	.....	.....	1	Butler,	2
Grease and tallow,	1	.....	1	.....	.....	1	.....	.....	1	Cambria,	9
Paints and varnishes,	1	.....	1	.....	1	1	.....	.....	1	Carbon,	2
Powder and other explosives,	1	.....	1	.....	1	1	.....	.....	1	Centre,	1
Brick,	2	.....	1	1	1	2	.....	.....	2	Chester,	2
Cement,	1	.....	1	.....	.....	1	.....	.....	1	Clarion,	1
Bread and other bakery products,	1	.....	1	.....	.....	1	.....	.....	1	Clearfield.	5
Flour and grist mill products,	1	.....	.....	1	.....	1	.....	.....	1	Cumberland,	1
Lumber and timber products,	2	.....	.....	2	.....	2	.....	.....	2	Dauphin.	4
Planing mill products,	1	.....	1	.....	1	1	.....	.....	1	Delaware,	2
Wall paper,	1	.....	.....	1	.....	1	.....	.....	1	Elk,	1
Cotton goods,	1	.....	1	.....	.....	1	.....	.....	1	Fayette,	7
Woolen, worsted and felt goods.	1	.....	1	.....	4	1	.....	.....	1	Indiana,	4
Automobiles and parts,	1	.....	1	.....	2	1	.....	.....	1	Jefferson,	2
Billets, blooms and slabs,	20	.....	16	4	39	20	.....	.....	20	Lackawanna,	11
Boilers, tanks and stacks,	1	.....	1	.....	2	1	.....	.....	1	Lancaster,	4
Brass and bronze products,	1	.....	1	.....	.....	1	.....	.....	1	Lawrence,	1
Cars and car wheels,	5	.....	3	2	7	5	.....	.....	5	Lebanon,	1
Castings—iron and steel,	2	.....	1	1	1	2	.....	.....	2	Luzerne,	18
Engines—railroad,	3	.....	3	.....	12	3	.....	.....	3	McKean,	1
Forgings—iron and steel,	1	.....	1	.....	.....	1	.....	.....	1	Mercer,	2

Hoops, bands and cotton ties,	1	.....	1	.....	4	1	.....	.....	1	Montgomery,	2
Nails and spikes,	1	.....	1	1	.....	1	.....	.....	1	Northampton,	6
Plates—iron and steel,	1	.....	1	.....	1	1	.....	.....	1	Northumberland,	3
Pumps and valves,	1	.....	1	.....	5	1	.....	.....	1	Philadelphia,	19
Rods—steel, in coils,	1	.....	1	.....	1	1	.....	.....	1	Schuylkill,	9
Safes, vaults and locks,	1	.....	1	.....	5	1	.....	.....	1	Somerset,	4
Tin and terne plate,	1	.....	.....	1	.....	1	.....	.....	1	Susquehanna,	1
Ware-enameled and galvanized,	1	.....	1	.....	1	1	.....	.....	1	Tioga,	1
Garages—making repairs,	1	.....	1	.....	.....	1	.....	.....	1	Venango,	2
Sand and gravel,	1	.....	1	.....	.....	.....	1	.....	1	Washington,	2
Coal—anthracite,	36	.....	25	11	50	.....	36	.....	36	Westmoreland,	4
Coal—bituminous,	32	.....	21	11	43	.....	32	.....	32	York,	2
Public Service,	27	.....	17	10	36	.....	.....	27	27		
Miscellaneous,	14	.....	10	4	18	14	.....	.....	14		
Mercantile establishments,	.....	1	.....	1	.....	1	.....	.....	1		
Municipalities,	1	.....	1	.....	4	.....	.....	1	1		
Totals,	176	1	123	54	243	80	69	28	177	.....	177

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING MAY, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Brick, cement and stone work,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Building construction,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Painting and decorating,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Roofing and sheet metal work,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Chemicals,	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fertilizers,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Gas,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Glue and gelatin,	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Oils—essential,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Powder and other explosives,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Cement,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Glass—decorative,	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....
Marble and granite work,	.....	.....	2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Bread and other bakery products,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....
Ice cream,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Sugar refining,	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Liquors, malt,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....
Boxes—packing,	1	.....	.....	1	1	.....	.....	.....	.....	1	.....	.....	.....	1	.....	1	.....	1
Woolen, worsted and felt goods,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Billets, blooms and slabs,	1	3	4	1	.....	4	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Cars and car wheels,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	4	3	1	4	.....	.....	.....	1
Castings—iron and steel,	2	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Engines—railroad,	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	2	.....	.....	.....	.....	1
Iron—pig,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....
Pipes and tubing,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Plates—iron and steel,	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1

Shapes—structural,	1	.....	1	.....	.....	1	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....
Supplies—eiectrical,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Wire products,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Sand and gravel,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Stone,	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Coal—anthracite,	.....	6	14	2	1	5	.....	.....	.....	1	1	11	6	7	1	.....	.....	3
Coal—bituminous,	.....	1	11	.....	.....	13	.....	.....	.....	1	.....	17	.....	7	.....	.....	.....	2
Public Service,	1	2	.....	3	.....	22	.....	.....	.....	1	1	10	3	11	.....	.....	.....	4
Miscellaneous,	2	2	3	4	1	1	.....	.....	.....	5	2	7	.....	3	.....	.....	.....	6
Hotels and restaurants,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Mercantile establishments,	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	.....
Muuicipalities,	.....	.....	.....	1	.....	2	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....
Totals,	15	21	38	20	4	53	1	1	1	10	12	63	15	46	1	1	1	25

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING MAY, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public Service.			
Brick, cement and stone work,	1		1			1			1	Allegheny,	24
Building construction,	1		1			1			1	Armstrong,	1
Painting and decorating,	1			1		1			1	Berks,	3
Roofing and sheet metal work,	1			1		1			1	Blair,	1
Chemicals,	2		1	1	4	2			2	Butler,	1
Fertilizers,	1		1		2	1			1	Cambria,	7
Gas,	1			1		1			1	Carbon,	2
Glue and gelatin,	1		1		1	1			1	Centre,	1
Oils—essential,	1			1		1			1	Chester,	2
Powder and other explosives,	1		1		1	1			1	Clinton,	2
Cement,	2		1	1	1	2			2	Dauphin,	3
Glass—decorative,	1		1		4	1			1	Delaware,	4
Marble and granite work,	2		2			2			2	Erie,	3
Bread and other bakery products,	1		1			1			1	Fayette,	3
Ice cream,	1			1		1			1	Indiana,	6
Sugar refining,	2		1	1		2			2	Lackawanna,	11
Liquors, malt,	3		3		2	3			3	Lancaster,	2
Boxes—packing,	1		1			1			1	Lawrence,	4
Woolen, worsted and felt goods,	1		1		3	1			1	Lehigh,	3
Billets, blooms and slabs,	13		8	5	16	13			13	Luzerne,	10
Cars and car wheels,	1		1			1			1	Lycoming,	3
Castings—iron and steel,	4		3	1	1	4			4	Mercer,	1
Engines—railroad,	1		1		3	1			1	Mifflin,	1
Iron—pig,	1		1		2	1			1	Montgomery,	6

Pipes and tubing,	1	.....	1	.....	1	1	.....	.....	1	Northampton,	6
Plates—iron and steel,	2	.....	2	.....	3	2	.....	.....	2	Philadelphia,	30
Shapes—structural,	3	.....	1	2	.....	3	.....	.....	3	Potter,	1
Supplies—electrical,	1	.....	.....	1	.....	1	.....	.....	1	Schuylkill,	9
Wire products,	1	.....	1	.....	3	1	.....	.....	1	Somerset,	1
Sand and gravel,	1	.....	1	.....	4	.....	1	.....	1	Union,	1
Stone,	2	.....	2	.....	4	.....	2	.....	2	Warren,	1
Coal—anthracite,	29	.....	23	6	43	.....	29	.....	29	Washington,	3
Coal—bituminous,	26	.....	17	9	32	.....	26	.....	26	Wayne,	1
Public Service,	29	.....	21	8	40	.....	.....	29	29	Westmoreland,	8
Miscellaneous,	17	1	12	6	6	18	.....	.....	18		
Hotels and restaurants,	1	.....	.....	1	.....	1	.....	.....	1		
Mercantile establishments,	2	.....	1	1	4	2	.....	.....	2		
Municipalities,	3	.....	3	.....	.....	.....	.....	3	3		
Totals,	163	1	116	48	180	74	58	32	164	.....	164

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING JUNE, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Electrical construction,				1										1				
Plumbing and heating,										2								1
Structural iron work (erecting),										1								
Dyestuffs and extracts,			1									1						
Fertilizers,				1														1
Oils—essential,								1					1					
Brick,			2									1						1
Cement,		1									1							
Glass—window,		1																1
Ice,		1		1							1							1
Slaughtering and meat packing,				1										1				
Leather—sole,				1										1				
Leather—tanned, curried, etc.,			1							1		1						1
Lumber and timber products,			1	1						1		1		1				1
Paper goods not specified,	1											1						
Printing and publishing,						1	1					1					1	
Pulp goods,	1													1				
Automobiles and parts,			1											1				
Bars—lead and lead sheets,					1							1						
Bars—iron and steel,	1											1						
Billets, blooms and slabs,	2	2	1	3	1	3				1	3	5	1	5				
Castings—iron and steel,				1						1				2				
Hardware and specialties,				1										1				
Iron—pig,	1	1								1	1			1				1
Machinery and parts,	1											1						
Radiators,		1									1							

Stoves, heaters and ranges,	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Tin and terne plate,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Wire products,	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....
Stone,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Stone—crushed,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Coal—anthracite,	.....	10	17	2	1	7	.....	.....	.....	3	1	15	2	10	.....	.....	1	11
Coal—bituminous,	2	1	15	3	2	4	.....	.....	.....	1	.....	11	2	11	.....	.....	.....	4
Public Service,	.....	3	2	.....	2	15	.....	.....	.....	2	1	6	1	8	.....	.....	.....	8
Miscellaneous,	2	.....	1	5	2	.....	.....	.....	.....	2	.....	2	1	3	.....	.....	.....	6
Hotels and restaurants,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Mercantile establishments,	.....	.....	1	.....	.....	4	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	3
Jobbers and wholesalers,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Municipalities,	.....	.....	.....	1	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	2
Totals,	15	22	44	22	10	35	2	1	.....	18	9	51	13	48	.....	1	3	14

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING JUNE, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public Service.			
Electrical construction,	1	.....	1	.....	.....	1	.....	.....	1	Allegheny,	22
Plumbing and heating,	2	.....	.....	2	.....	2	.....	.....	2	Armstrong,	3
Structural iron work (erecting),	1	.....	1	.....	.....	1	.....	.....	1	Beaver,	1
Dyestuffs and extracts,	1	.....	1	.....	2	1	.....	.....	1	Blair,	2
Fertilizers,	1	.....	1	.....	2	1	.....	.....	1	Butler,	2
Oils—essential,	1	.....	1	.....	.....	1	.....	.....	1	Cambria,	8
Brick,	2	.....	1	1	.....	2	.....	.....	2	Clinton,	1
Cement,	1	.....	.....	1	.....	1	.....	.....	1	Crawford,	1
Glass—window,	1	.....	1	.....	6	1	.....	.....	1	Cumberland,	2
Ice,	2	.....	1	1	.....	2	.....	.....	2	Dauphin,	3
Slaughtering and meat packing,	1	.....	.....	1	.....	1	.....	.....	1	Delaware,	2
Leather—sole,	1	.....	1	.....	4	1	.....	.....	1	Elk,	1
Leather—tanned, curried, etc.,	2	.....	2	.....	5	2	.....	.....	2	Fayette,	13
Lumber and timber products,	3	.....	1	2	.....	3	.....	.....	3	Franklin,	1
Paper goods not specified,	1	.....	.....	1	.....	1	.....	.....	1	Indiana,	3
Printing and publishing,	2	.....	1	1	.....	2	.....	.....	2	Jefferson,	2
Pulp goods,	1	.....	1	.....	5	1	.....	.....	1	Juniata,	1
Automobiles and parts,	1	.....	1	.....	1	1	.....	.....	1	Lackawanna,	15
Bars—lead and lead sheets,	1	.....	1	.....	.....	1	.....	.....	1	Lancaster,	4
Bars—iron and steel,	1	.....	1	.....	5	1	.....	.....	1	Lawrence,	1
Billets, blooms and slabs,	14	.....	9	5	20	14	.....	.....	14	Lehigh,	2
Castings—iron and steel,	2	.....	1	1	.....	2	.....	.....	2	Luzerne,	10
Hardware and specialties,	1	.....	1	.....	2	1	.....	.....	1	Mercer,	3
Iron—pig,	3	.....	2	1	3	3	.....	.....	3	Montgomery,	1

Machinery and parts,	1	.....	1	.....	.....	1	.....	.....	1	Northampton,	4
Radiators,	1	.....	1	.....	.....	1	.....	.....	1	Northumberland,	3
Stoves, heaters and ranges,	1	.....	1	.....	.....	1	.....	.....	1	Philadelphia,	26
Tin and terne plate,	1	.....	1	.....	.....	1	.....	.....	1	Potter,	2
Wire products,	2	.....	2	.....	4	2	.....	.....	2	Schuylkill,	12
Stone,	1	.....	1	.....	2	.....	1	.....	1	Somerset,	3
Stone—crushed,	1	.....	1	.....	1	.....	1	.....	1	Susquehanna,	1
Coal—anthracite,	40	.....	26	14	53	.....	40	.....	40	Tioga,	1
Coal—bituminous,	28	.....	18	10	34	.....	28	.....	28	Wayne,	1
Public ervice,	24	.....	15	9	29	.....	.....	24	24	Westmoreland,	6
Miscellaneous,	12	.....	10	2	2	12	.....	.....	12	York,	2
Hotels and restaurants,	1	.....	.....	1	.....	1	.....	.....	1		
Mercantile establishments,	5	.....	4	1	8	5	.....	.....	5		
Jobbers and wholesalers,	1	.....	.....	1	.....	1	.....	.....	1		
Municipalities,	3	.....	2	1	.....	.....	.....	3	3		
Totals,	169	.....	113	56	188	72	70	27	169	.....	169

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING JULY, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Brick, cement and stone work,	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Building construction,	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Plumbing and heating,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Railway construction,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Roofing and sheet metal work,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Chemicals,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Gas,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Oils—crude,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Oils—refined kreosene,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Powderland and other explosives,	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....
Brick,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Glass—plate,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Ice cream,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Slaughtering and meat packing,	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Sugar refining,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Boots and shoes,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Leather—tanned, curried, etc.,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Liquors—malt,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Lumber and timber products,	.....	.....	.....	.....	1	2	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....
Printing and publishing,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Pulp goods,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Roofing paper,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Handkerchiefs and embroideries,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Woolen, worsted and felt goods,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....
Laundry work,	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Billets, blooms and Slabs,	.....	1	2	2	.....	5	.....	1	.....	3	1	6	1	4	.....	.....	.....	2

Castings—iron and steel,	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....
Engines—railroad,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Forgings—iron and steel,	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	1
Hardware and specialties,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Iron—pig,	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
Machine repair shops,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Pipes and tubing,	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	1	.....	.....	.....	.....	.....	1
Railroad supplies,	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Shapes—structural,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Tin and terne plate,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Ore—iron,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....
Stone,	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Stone—crushed,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Coal—anthracite,	1	13	19	3	2	3	.....	.....	.....	2	4	13	4	9	.....	.....	.....	.....	13
Coal—bituminous,	.....	2	19	1	1	7	.....	1	.....	1	.....	12	3	8	.....	.....	.....	.....	9
Public Service,	.....	5	1	2	1	21	.....	.....	.....	3	3	13	2	6	.....	.....	.....	.....	9
Miscellaneous,	1	1	.....	5	.....	6	.....	.....	.....	5	.....	8	.....	5	.....	1	.....	.....	4
Mercantile establishments,	.....	.....	.....	3	.....	1	.....	.....	.....	2	.....	1	.....	2	.....	.....	1	.....	2
Jobbers and wholesalers,	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Municipalities,	1	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	1
Totals,	9	40	47	25	7	50	.....	3	1	27	23	66	15	45	.....	1	1	58	

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING JULY, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public Service.			
Brick, cement and stone work,	2	.....	1	1	.....	2	.....	.....	2	Allegheny,	31
Building construction,	2	.....	1	1	.....	2	.....	.....	2	Armstrong,	2
Plumbing and heating,	1	.....	.....	1	.....	1	.....	.....	1	Berks,	3
Railway construction,	1	.....	.....	1	.....	1	.....	.....	1	Blair,	1
Roofing and sheet metal work,	1	.....	1	.....	.....	1	.....	.....	1	Butler,	1
Chemicals,	1	.....	.....	1	.....	1	.....	.....	1	Cambria,	9
Gas,	1	.....	1	.....	.....	1	.....	.....	1	Cameron,	12
Oils—crude,	1	.....	.....	1	.....	1	.....	.....	1	Carbon,	2
Oils—refined kerosene,	1	.....	1	.....	.....	1	.....	.....	1	Chester,	6
Powder and other explosives,	12	.....	4	8	12	12	.....	.....	12	Clearfield,	2
Brick,	1	.....	.....	1	.....	1	.....	.....	1	Dauphin,	5
Glass—plate,	1	.....	1	.....	4	1	.....	.....	1	Erie,	1
Ice cream,	1	.....	1	.....	.....	1	.....	.....	1	Fayette,	7
Slaughtering and meat packing,	1	.....	1	.....	2	1	.....	.....	1	Forest,	1
Sugar refining,	1	.....	1	.....	.....	1	.....	.....	1	Greene,	1
Boots and shoes,	1	.....	1	.....	.....	1	.....	.....	1	Indiana,	3
Leather—tanned, curried, etc.,	1	.....	.....	1	.....	1	.....	.....	1	Lackawanna,	11
Liquors—malt,	1	.....	.....	1	.....	1	.....	.....	1	Lancaster,	2
Lumber and timber products,	3	.....	1	2	5	3	.....	.....	3	Lawrence,	2
Printing and publishing,	1	.....	.....	1	.....	1	.....	.....	1	Lebanon,	1
Pulp goods,	1	.....	.....	1	.....	1	.....	.....	1	Lehigh,	2
Roofing paper,	1	.....	.....	1	.....	1	.....	.....	1	Luzerne,	20
Handkerchiefs and embroideries,	.....	1	.....	1	.....	1	.....	.....	1	Lycoming,	1
Woolen, worsted and felt goods,	.....	1	.....	1	.....	1	.....	.....	1	Mercer,	1

Laundry work,	.....	1	.....	1	.....	1	.....	.....	1	Mifflin,	1
Billets, blooms and slabs,	14	.....	10	4	14	14	.....	.....	14	Monroe,	1
Castings—iron and steel,	2	.....	1	1	1	2	.....	.....	2	Montgomery,	4
Engines—railroad,	1	.....	1	.....	1	1	.....	.....	1	Northampton,	3
Forgings—iron and steel,	2	.....	2	.....	2	2	.....	.....	2	Northumberland,	11
Hardware and specialties,	1	.....	1	.....	.....	1	.....	.....	1	Philadelphia,	30
Iron—pig,	2	.....	2	.....	9	2	.....	.....	2	Potter,	1
Machine repair shops,	1	.....	.....	1	.....	1	.....	.....	1	Schuylkill,	10
Pipes and tubing,	2	.....	.....	2	.....	2	.....	.....	2	Somerset,	1
Railroad supplies,	1	.....	1	.....	.....	1	.....	.....	1	Susquehanna,	1
Shapes—structural,	1	.....	1	.....	4	1	.....	.....	1	Venango,	1
Tin and terne plate,	1	.....	1	.....	.....	1	.....	.....	1	Washington,	7
Ore—iron,	1	.....	1	.....	8	.....	1	.....	1	Westmoreland,	10
Stone,	2	.....	2	.....	2	.....	2	.....	2	Wyoming,	1
Stone—crushed,	1	.....	1	.....	.....	.....	1	.....	1		
Coal—anthracite,	43	.....	29	14	58	.....	43	.....	43		
Coal—bituminous,	32	.....	19	13	36	.....	32	.....	32		
Public service,	33	.....	18	15	21	.....	.....	33	33		
Miscellaneous,	18	.....	11	7	15	18	.....	.....	18		
Mercantile establishments,	6	.....	1	5	.....	6	.....	.....	6		
Jobbers and wholesalers,	2	.....	2	.....	5	2	.....	.....	2		
Municipalities,	3	.....	3	.....	.....	.....	.....	3	3		
Totals,	206	3	122	87	199	94	79	36	209		209

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING AUGUST, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Brick, cement and stone work,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Building construction,	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Chemicals,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Oils—essentials,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Powder and other explosives.	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Cement,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Bread and other bakery products,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Butter, cheese and condensed milk,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Coffee and spices, roasting, etc.,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Ice,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Slaughtering and meat packing,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Liquors—malt,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Lumber and timber products,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Planing mill products,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Photo engraving,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Roofing paper,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Woolen, worsted and felt goods,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Billets, blooms and slabs,	4	2	1	4	2	7	.....	.....	.....	1	2	11	.....	6	.....	.....	.....	2
Bolts, nuts and rivets,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Castings—iron and steel,	3	2	1	1	.....	1	.....	.....	.....	2	.....	1	1	1	.....	.....	.....	7
Iron—pig,	.....	.....	.....	1	1	1	.....	.....	.....	.....	.....	1	1	.....	1	.....	.....	.....
Machinery and parts,	.....	.....	3	3	.....	.....	.....	1	.....	.....	.....	1	.....	4	.....	.....	.....	2
Pipes and tubing,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Plates—iron and steel,	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....
Railroad supplies,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Scrap iron and steel,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....

Shapes—structural,	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	2	.....	.....	.....	1
Ware—tin and stamped,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Watches, clocks, jewelry, etc.,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Sand and gravel,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Stone,	2	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1
Coal—anthracite,	1	16	24	2	1	5	.....	.....	.....	7	.....	8	5	17	1	.....	1	24
Coal—bituminous,	1	5	23	2	.....	10	.....	.....	.....	1	.....	11	3	14	.....	1	.....	13
Public service,	2	9	2	.....	1	17	1	.....	.....	1	3	8	2	5	.....	.....	1	14
Miscellaneous,	4	1	2	3	.....	6	.....	.....	.....	5	2	4	1	6	.....	.....	.....	8
Mercantile establishments,	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Jobbers and wholesalers,	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Municipalities,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Totals,	21	43	61	21	5	55	1	1	.....	23	12	50	13	69	2	1	2	88

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING AUGUST, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public Service.			
Brick, cement and stone work,	1	.....	1	.....	2	1	.....	.....	1	Allegheny,	44
Building construction,	2	.....	.....	2	.....	2	.....	.....	2	Blair,	2
Chemicals,	1	.....	1	.....	.....	1	.....	.....	1	Butler,	3
Oils—essential,	1	.....	1	.....	1	1	.....	.....	1	Cambria,	8
Powder and other explosives,	1	.....	1	.....	1	1	.....	.....	1	Carbon,	1
Cement,	1	.....	1	.....	.....	1	.....	.....	1	Centre,	1
Bread and other bakery products,	1	.....	.....	1	.....	1	.....	.....	1	Chester,	1
Butter, cheese and condensed milk,	1	.....	.....	1	.....	1	.....	.....	1	Clearfield,	2
Coffee and spices, roasting, etc.,	1	.....	.....	1	.....	1	.....	.....	1	Clinton,	1
Ice,	1	.....	1	.....	6	1	.....	.....	1	Dauphin,	5
Slaughtering and meata packing,	1	.....	.....	1	.....	1	.....	.....	1	Delaware,	3
Liquors—malt,	1	.....	1	.....	4	1	.....	.....	1	Elk,	1
Lumber and timber products,	1	.....	1	.....	.....	1	.....	.....	1	Erie,	6
Planing mill products,	1	.....	1	.....	2	1	.....	.....	1	Fayette	12
Photo engraving,	1	.....	.....	1	.....	1	.....	.....	1	Huntingdon,	1
Roofing paper,	1	.....	.....	1	.....	1	.....	.....	1	Indiana,	3
Woolen, worsted and felt goods,	1	.....	1	.....	1	1	.....	.....	1	Jefferson,	1
Billets. blooms and slabs.	21	.....	11	10	21	21	.....	.....	21	Lackawanna,	13
Bolts, nuts and rivets,	1	.....	1	.....	1	1	.....	.....	1	Lancaster,	2
Castings—iron and steel,	10	.....	8	2	17	10	.....	.....	10	Lawrence,	3
Iron—pig,	3	.....	3	.....	9	3	.....	.....	3	Lebanon,	4
Machinery and parts,	7	.....	5	2	7	7	.....	.....	7	Luzerne,	36
Pipes and tubing,	1	.....	1	.....	.....	1	.....	.....	1	McKean,	1
Plates—iron and steel,	2	.....	2	.....	5	2	.....	.....	2	Mercer,	6
Railroad supplies,	1	.....	1	.....	2	1	.....	.....	1	Montgomery,	10
Scrap iron and steel,	1	.....	.....	1	.....	1	.....	.....	1	Northampton,	11

Shapes—structural,	3	.....	1	2	3	3	.....	.....	3	Northumberland,	3
Ware—tin and stamped,	1	.....	1	.....	1	1	.....	.....	1	Philadelphia,	22
Watches, clocks, jewelry, etc.,	1	.....	1	.....	4	1	.....	.....	1	Schuylkill,	9
Sand and gravel,	1	.....	1	.....	4	.....	1	.....	1	Somerset,	2
Stone,	3	.....	.....	1	3	.....	3	.....	3	Sullivan,	1
Coal—anthracite,	56	.....	30	17	84	.....	56	.....	16	Washington,	7
Coal—bituminous,	42	.....	25	17	49	.....	42	.....	42	Westmoreland,	6
Public service,	33	.....	22	11	35	.....	.....	33	33		
Miscellaneous,	20	1	10	11	10	21	.....	.....	21		
Mercantile establishments,	2	.....	2	.....	3	2	.....	.....	2		
Jobbers and wholesalers,	2	.....	2	.....	2	2	.....	.....	2		
Municipalities,	1	.....	1	.....	.....	.....	.....	1	1		
Totals,	230	1	149	82	290	95	102	34	231		231

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING SEPTEMBER, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Electrical construction,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Plumbing and heating,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Railway construction,	1	.....	.....	.....	.....	1	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....
Chemicals,	.....	3	.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....	1	.....	.....	.....	1
Fertilizers,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Gas,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Oils—essentials,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Powder and other explosives,	.....	10	.....	.....	.....	1	.....	.....	1	.....	6	.....	.....	.....	.....	.....	.....	6
Toilet preparations,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Wood alcohol and acetate of lime,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Brick,	1	.....	1	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Cement,	.....	1	1	1	.....	.....	.....	.....	.....	.....	1	1	.....	1	.....	.....	.....	.....
Lime,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Pottery, terra cotta, etc.,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	1
Confectionery,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Slaughtering and meat packing,	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	1
Belting and hose,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Leather—tanned, curried, etc.,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Carbonated beverages,	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Liquors—malt,	.....	.....	.....	2	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	1
Lumber and timber products,	.....	.....	.....	.....	.....	1	.....	.....	1	2	.....	.....	1	1	.....	.....	.....	2
Printing and publishing,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Pulp goods,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Roofing paper,	1	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....
Cotton goods,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Silk, silk goods and throwsters,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....

Agricultural implements and machiner-	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Billets, blooms and slabs,	3	3	3	3	.....	5	.....	.....	.....	3	4	6	3	4	.....	.....	.....	.....	3
Bolts, nuts and rivets,	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Brass and bronze products,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Cars and car wheels,	.....	1	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Castings—iron and steel,	1	2	.....	.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....
Forgings—iron and steel,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Hoops, bands and cotton ties,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Iron—pig,	1	1	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	.....	.....	.....	.....
Machinery and parts,	.....	1	1	.....	.....	1	.....	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	2
Machine tools,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Pipes and tubing,	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Railroad supplies,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Rods—steel, in coils,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Shapes—structural,	1	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1
Stoves, heaters and ranges,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Tin and terne plate,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Wire products,	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Garages, making repairs,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Slate—other than roofing,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Stone,	2	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2
Coal—anthracite,	1	6	29	2	2	11	1	.....	.....	6	4	11	6	15	.....	.....	.....	.....	22
Coal—bituminous,	.....	2	19	3	1	13	.....	1	.....	1	2	11	4	17	.....	.....	.....	.....	6
Public service,	1	5	2	2	.....	29	.....	2	.....	1	4	13	6	8	.....	.....	.....	1	10
Miscellaneous,	1	1	3	8	1	7	.....	.....	.....	b	2	4	1	6	.....	.....	.....	.....	13
Mercantile establishments,	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....
Municipalities,	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
Totals,	23	43	69	32	7	79	1	3	2	25	33	69	26	72	.....	.....	1	83	

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING SEPTEMBER, 1916—Continued.

Industries.	Sex.		Social Condition		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public Service.			
Electrical construction,	1		1		4	1			1	Allegheny,	38
Plumbing and heating,	1		1		3	1			1	Armstrong,	2
Railway construction,	2		1	1		2			2	Beaver,	3
Chemicals,	4		3	1	9	4			4	Bedford,	4
Fertilizers,	1		1			1			1	Berks,	2
Gas,	1		1		2	1			1	Blair,	2
Oils—essential,	1			1		1			1	Bradford,	2
Powder and other explosives,	12		6	6	7	12			12	Butler,	3
Toilet preparations,	1		1		1	1			1	Cambria,	6
Wood alcohol and acetate of lime,	1		1		4	1			1	Cameron,	2
Brick,	4		3	1	7	4			4	Centre,	2
Cement,	3		3		6	3			3	Chester,	2
Lime,	1			1		1			1	Clearfield,	3
Pottery, terra cotta, etc.,	1		1		1	1			1	Clinton,	3
Confectionery,	1		1		5	1			1	Columbia,	1
Slaughtering and meat packing,	2		1	1		2			2	Crawford,	3
Belting and hose,	1			1		1			1	Cumberland,	1
Leather—tanned, curried, etc.,	1		1			1			1	Dauphin,	8
Carbonated beverages,	1		1			1			1	Delaware,	3
Liquors—malt,	3		3			3			3	Elk,	2
Lumber and timber products,	4		4		10	4			4	Erie,	4
Printing and publishing,	1			1		1			1	Fayette,	10
Pulp goods,	1		1		2	1			1	Forest,	1
Roofing paper,	2		1	1		2			2	Franklin,	2
Cotton goods,	1			1		1			1	Huntingdon,	1
Silk, silk goods and throwsters	1			1		1			1	Indiana,	10

Agricultural implements and machinery,	1	.....	1	.....	3	1	.....	.....	1	Juniata,	1
Billets, blooms and slabs,	20	.....	13	7	17	20	.....	.....	26	Lackawanna,	19
Bolts, nuts and rivets,	2	.....	1	1	1	2	.....	.....	2	Lancaster,	3
Brass and bronze products,	1	.....	1	.....	1	1	.....	.....	1	Lawrence,	1
Cars and car wheels,	2	.....	.....	2	.....	2	.....	.....	2	Lehigh,	1
Castings—iron and steel,	3	.....	3	.....	.....	3	.....	.....	3	Luzerne,	20
Forgings—iron and steel,	1	.....	1	.....	4	1	.....	.....	1	Lycoming,	1
Hoops, bands and cotton ties,	1	.....	.....	1	.....	1	.....	.....	1	Mercer,	1
Iron—pig,	3	.....	1	2	.....	3	.....	.....	3	Mifflin,	6
Machinery and parts,	4	.....	2	2	4	4	.....	.....	4	Monroe,	1
Machine tools,	1	.....	1	.....	.....	1	.....	.....	1	Montgomery,	3
Pipes and tubing,	2	.....	1	1	5	2	.....	.....	2	Northampton,	9
Railroad supplies,	1	.....	1	.....	1	1	.....	.....	1	Northumberland,	2
Rods—steel, in coils,	1	.....	1	.....	.....	1	.....	.....	1	Perry,	2
Shapes—structural,	3	.....	2	1	3	3	.....	.....	3	Philadelphia,	33
Stoves, heaters and ranges,	1	.....	1	.....	5	1	.....	.....	1	Schuylkill,	24
Tin and terne plate,	1	.....	.....	1	.....	1	.....	.....	1	Somerset,	1
Wire products,	2	.....	2	.....	.....	2	.....	.....	2	Sullivan,	2
Garages, making repairs,	1	.....	.....	1	.....	1	.....	.....	1	Susquehanna,	1
Slate—other than roofing,	1	.....	.....	1	.....	.....	1	.....	1	Tioga,	1
Stone,	3	.....	3	.....	3	.....	3	.....	3	Venango,	1
Coal—anthracite,	58	.....	42	16	86	.....	58	.....	58	Washington,	8
Coal—bituminous,	40	.....	30	10	49	.....	40	.....	40	Westmoreland,	7
Public service,	42	.....	34	8	38	.....	.....	42	42	York,	3
Miscellaneous,	26	.....	12	14	13	26	.....	.....	26		
Mercantile establishments,	2	.....	1	1	.....	2	.....	.....	2		
Municipalities,	2	.....	2	.....	2	.....	.....	2	2		
Totals,	278	.....	192	86	296	132	102	44	278		278

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING OCTOBER, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires, Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Brick, cement and stone work,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Building construction,	.....	.....	2	1	.....	3	.....	.....	.....	.....	.....	2	.....	2	.....	.....	.....	2
Painting and decorating,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Paving and road constructiou,	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Chemicals,	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2
Oils—crude,	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Oils—essential,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Powder and other explosives,	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Cement,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Glass—window,	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Butter, cheese and condensed milk,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Slaughtering and meat packing,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Leather—sole,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Liquors—malt,	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Carriages, wagons and parts,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Furniture,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Lumber and timber products,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Pulp goods,	1	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	1	2	.....	.....	.....	.....	.....
Wall paper,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Dyeing and finishing textiles,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Agricultural implements and machinery,	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....
Automobiles and parts,	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Bars—iron and steel,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Beds and bed springs,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Billets, blooms and slabs,	3	6	2	2	1	6	.....	.....	.....	2	3	5	3	9	.....	.....	.....	2
Boilers, tanks and stacks,	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....

Cars and car wheels,	1	1	1								1			1					1
Castings—iron and steel,			2	1	1	1						1	1	2					1
Chains,										1									1
Engines—railroad,	1		1									2							
Forgings—iron and steel,		1																	1
Iron—pig,		1																	1
Machinery and parts,	1												1						
Motors, dynamos, generators, etc.,	1												1						
Pipes and tubing,		1		2								1		1					1
Plates—iron and steel,						1						1							
Shapes—structural,			1																1
Stoves, heaters and ranges,				1								1							
Supplies—electrical,										1									1
Wire products,		1		1							1	1							
Stone,	2	2		1										2					3
Stone—crushed,				1										1					
Coal—anthracite,		12	33	2	1	11				3	7	16	5	21					13
Coal—bituminous,	1	10	18	1		13				3	1	8	2	19	1				15
Public service,		2	1	3		25				4	2	10	4	5					14
Miscellaneous,	3		5	10	1	3				1	1	5	1	8	1				7
Mercantile establishments,	1				1					1		1							2
Jobbers and wholesalers,				1						1		1							1
Municipalities,						2				2				2					2
Totals,	18	44	70	31	7	72				24	19	61	22	80	2	1			81

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING OCTOBER, 1916—Continued.

Industries.	Sex.		Social Condition.		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.			
Brick, cement and stone work,	1	.....	1	.....	.....	1	.....	.....	1	Allegheny,	31
Building construction,	6	.....	4	2	10	6	.....	.....	6	Armstrong,	1
Painting and decorating,	1	.....	1	.....	4	1	.....	.....	1	Beaver,	2
Paving and road construction,	2	.....	2	.....	.....	2	.....	.....	2	Berks,	2
Chemicals,	2	.....	.....	2	.....	2	.....	.....	2	Blair,	5
Oils—crude,	1	.....	1	.....	2	1	.....	.....	1	Bradford,	1
Oils—essential,	1	.....	1	.....	.....	1	.....	.....	1	Butler,	3
Powder and other explosives,	2	.....	.....	2	.....	2	.....	.....	2	Cambria,	13
Cement,	1	.....	1	.....	1	1	.....	.....	1	Cameron,	1
Glass—window,	2	.....	2	.....	.....	2	.....	.....	2	Chester,	2
Butter, cheese and condensed milk,	1	.....	.....	1	.....	1	.....	.....	1	Clearfield,	3
Slaughtering and meat packing,	1	.....	1	.....	4	1	.....	.....	1	Clinton,	1
Leather—sole,	1	.....	.....	1	.....	1	.....	.....	1	Cumberland,	3
Liquors—malt,	2	.....	1	1	1	2	.....	.....	2	Dauphin,	7
Carriages, wagons and parts,	1	.....	1	.....	.....	1	.....	.....	1	Delaware,	9
Furniture,	1	.....	1	.....	3	1	.....	.....	1	Erie,	3
Lumber and timber products,	1	.....	1	.....	3	1	.....	.....	1	Fayette,	9
Pulp goods,	3	.....	2	1	.....	3	.....	.....	3	Greene,	1
Wall paper,	1	.....	.....	1	.....	1	.....	.....	1	Huntingdon,	1
Dyeing and finishing textiles,	1	.....	1	.....	.....	1	.....	.....	1	Indiana,	6
Agricultural implements and machinery,	2	.....	2	.....	.....	2	.....	.....	2	Lackawanna,	13
Automobiles and parts,	1	.....	1	.....	5	1	.....	.....	1	Lancaster,	3
Bars—iron and steel,	1	.....	1	.....	.....	1	.....	.....	1	Lawrence,	2
Beds and bed springs,	1	.....	.....	1	.....	1	.....	.....	1	Lebanon,	2
Billets, blooms and slabs,	22	.....	15	7	28	22	.....	.....	22	Luzerne,	29
Boilers, tanks and stacks,	2	.....	1	1	.....	2	.....	.....	2	Lycoming,	1

Cars and car wheels,	3	.....	2	1	2	3	.....	.....	3	McKean,	1
Castings—iron and steel,	5	.....	3	2	9	5	.....	.....	5	Mercer,	2
Chains,	1	.....	1	.....	.....	1	.....	.....	1	Mifflin,	3
Engines—railroad,	2	.....	1	1	3	2	.....	.....	2	Montgomery,	10
Forgings—iron and steel,	1	.....	.....	1	.....	1	.....	.....	1	Northampton,	9
Iron—pig,	1	.....	.....	1	.....	1	.....	.....	1	Northumberland,	11
Machinery and parts,	1	.....	1	.....	.....	1	.....	.....	1	Philadelphia,	34
Motors, dynamos, generators, etc.,	1	.....	1	.....	.....	1	.....	.....	1	Schuylkill,	16
Pipes and tubing,	3	.....	3	.....	2	3	.....	.....	3	Somerset,	4
Plates—iron and steel,	1	.....	.....	1	.....	1	.....	.....	1	Tioga,	2
Shapes—structural,	1	.....	1	.....	2	1	.....	.....	1	Venango,	1
Stoves, heaters and ranges,	1	.....	.....	1	.....	1	.....	.....	1	Washington,	10
Supplies—electrical,	1	.....	1	.....	2	1	.....	.....	1	Wayne,	1
Wire products,	2	.....	2	.....	2	2	.....	.....	2	Westmoreland,	6
Stone,	5	.....	3	2	4	.....	5	.....	5	York,	2
Stone—crushed,	1	.....	1	.....	1	.....	1	.....	1		
Coal—anthracite,	62	.....	36	26	86	.....	62	.....	62		
Coal—bituminous,	46	.....	26	20	40	.....	46	.....	46		
Public service,	35	.....	24	11	21	.....	.....	35	35		
Miscellaneous,	23	.....	15	8	20	23	.....	.....	23		
Mercantile establishments,	3	.....	2	1	.....	3	.....	.....	3		
Jobbers and wholesalers,	2	.....	2	.....	5	2	.....	.....	2		
Municipalities,	3	1	3	1	.....	.....	.....	4	4		
Totals,	265	1	169	97	260	113	114	39	266		266

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING NOVEMBER, 1916.

Industries.	Cause.											Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires, Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Brick, cement and stone work,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Building construction,	.....	.....	3	1	1	2	.....	.....	.....	1	.....	3	2	1	1	.....	.....	1
Painting and decorating,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Paving anad road construction,	.....	1	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	1
Plumbing and heating,	.....	.....	1	4	1	1	.....	.....	.....	1	.....	.....	.....	4	.....	.....	.....	4
Structural iron work (erecting),	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Chemicals,	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	2
Oils—crude,	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Paints and varnishes,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Powder and other explosives,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Wood alcohol and acetate of lime,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Brick,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Pottery, terra cotta, etc.,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Hosiery and knit goods,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Bread and other bakery products,	1	.....	.....	1	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1
Flour and grist mill products,	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Ice cream,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Leather—tanned, curried, etc.,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Lumber and timber products,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Printing and publishing,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Carpets and rugs,	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Bars—iron and steel,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Billets, blooms and slabs,	.....	2	8	4	.....	2	.....	1	.....	2	2	3	4	4	.....	.....	.....	7
Bolts, nuts and rivets,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Cars and car wheels,	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Castings—iron and steel,	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....

Engines—railroad,	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Ferro alloys,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Fire arms and ammunition,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Iron—pig,	1	.....	.....	.....	.....	2	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....	.....
Machinery and parts,	1	3	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	4
Plates—iron and steel,	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	.....	.....	.....	.....
Pumps and valves,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Shapes—structural,	.....	3	.....	1	.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	1
Sheets,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Tin and terne plate,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Ware—enamel and galvanized,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Wire products,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Garages, making repairs,	.....	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Stone,	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Stone—crushed,	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Coal—anthracite,	3	8	9	.....	1	12	.....	1	.....	.....	2	6	4	7	.....	.....	.....	15
Coal—bituminous,	1	1	24	1	.....	6	.....	.....	.....	3	.....	12	1	9	.....	.....	.....	14
Public service,	1	1	.....	5	2	26	.....	.....	.....	.....	.....	8	4	6	1	.....	.....	16
Miscellaneous,	3	.....	1	5	2	1	.....	.....	.....	2	.....	2	6	1	.....	.....	.....	5
Hotels and restaurant,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Mercantile establishments,	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....	1	.....	2	.....	.....	.....	.....
Jobbers and wholesalers,	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2
Municipalities,	.....	.....	.....	.....	1	2	.....	.....	.....	1	.....	.....	.....	1	1	.....	.....	2
Totals,	24	29	50	30	9	73	.....	3	.....	12	8	52	27	49	3	.....	1	90

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING NOVEMBER, 1916—Continued.

Industries.	Sex.		Social Condition.		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.			
Brick, cement and stone work,	1			1		1			1		
Building construction,	8		6	2	6	8			8	Allegheny,	42
Painting and decorating,	1		1		2	1			1	Armstrong,	1
Paving and road construction,	3		3		2	3			3	Beaver,	2
Plumbing and heating,	8		5	3		8			8	Berks,	4
Structural iron work (erecting),	1			1		1			1	Blair,	9
Chemicals,	4		3	2	5	4			4	Bucks,	1
Oils—crude,	2		2		1	2			2	Butler,	4
Paints and varnishes,	1			1		1			1	Cambria,	7
Powder and other explosives,	1		1		1	1			1	Cameron,	4
Wood alcohol and acetate of lime,	1		1			1			1	Carbon,	1
Brick,	1		1		5	1			1	Centre,	3
Pottery, terra cotta, etc.,	1		1			1			1	Clearfield,	2
Hosiery and knit goods,	1		1			1			1	Columbia,	1
Bread and other bakery products,	3		1	2	2	3			3	Dauphin,	3
Flour and grist mill products,	2		2		1	2			2	Delaware,	5
Ice cream,	1			1		1			1	Erie,	3
Leather—tanned, curried, etc.,	1			1		1			1	Fayette,	17
Lumber and timber products,	1		1			1			1	Huntingdon,	1
Printing and publishing,	1			1		1			1	Indiana,	4
Carpets and rugs,	2		1	1	1	2			2	Juniata,	1
Bars—iron and steel,	1			1		1			1	Lackawanna,	9
Billets, blooms and slabs,	20		13	7	35	20			20	Lancaster,	1
Bolts, nuts and rivets,	1			1		1			1	Lawrence,	2
Cars and car wheels,	2		1	1		2			2	Lebanon,	1
Castings—iron and steel,	2		2		2	2			2	Lehigh,	1

Engies—railroad,	1	.....	1	.....	.....	1	.....	.....	1	Luzerne,	23
Ferro alloys,	1	.....	1	.....	1	1	.....	.....	1	Lycoming,	1
Fire arms and ammunition,	1	.....	1	.....	1	1	.....	.....	1	Mercer,	1
Iron—pig,	3	.....	3	.....	4	3	.....	.....	3	Mifflin,	2
Machinery and parts,	5	.....	2	3	1	5	.....	.....	5	Monroe,	1
Plates—iron and steel,	2	.....	2	.....	.....	2	.....	.....	2	Montgomery,	9
Pumps and valves,	1	.....	1	.....	.....	1	.....	.....	1	Northampton,	4
Shapes—structural,	4	.....	3	1	4	4	.....	.....	4	Northumberland,	2
Sheets,	1	.....	.....	1	.....	1	.....	.....	1	Philadelphia,	33
Tin and terne plate,	1	.....	1	.....	.....	1	.....	.....	1	Pike,	1
Ware—enamel and galvanized,	1	.....	.....	1	.....	1	.....	.....	1	Schuylkill,	8
Wire products,	1	.....	.....	1	.....	1	.....	.....	1	Somerset,	3
Garages, making reapirs,	3	.....	1	2	.....	3	.....	.....	3	Warren,	1
Stone,	2	.....	2	.....	.....	.....	2	.....	2	Washington,	4
Stone—crushed,	2	.....	.....	2	.....	.....	2	.....	2	Westmoreland,	7
Coal—anthracite,	34	.....	23	11	59	.....	34	.....	34	York,	1
Coal—bituminous,	36	.....	21	15	29	.....	36	.....	36		
Public service,	35	.....	27	8	21	.....	.....	35	35		
Miscellaneous,	14	.....	10	4	14	14	.....	.....	14		
Hotels and restaurants,	1	.....	.....	1	.....	1	.....	.....	1		
Mercantile establishments,	3	.....	1	2	.....	3	.....	.....	3		
Jobbers and wholesalers,	3	.....	3	.....	7	3	.....	.....	3		
Municipalities,	4	.....	4	.....	2	.....	.....	4	4		
Totals,	230	.....	152	78	206	117	74	39	230		230

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING DECEMBER, 1916.

Industries.	Cause.										Nature of Injury.							
	Machinery.	Explosives, Electricity, Fires, Hot and Corrosive Substances.	Falling Objects.	Fall of Persons.	Handling Tools and Objects.	Power Vehicles.	Stepping on Sharp Objects.	Running into or Striking against Objects.	Poisonous Substances.	Miscellaneous.	Burns and Scalds.	Crushes and Bruises.	Cuts and Lacerations.	Fractures, Sprains and Dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.
Brick, cement and stone work,	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Building construction,	.....	.....	2	.....	.....	1	2	.....	.....	1	.....	3	.....	.....	.....	1	.....	2
Paving and road construction,	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Roofing and sheet metal work,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Chemicals,	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2
Oils—essentials,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Oils—refined, kerosene, etc.,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Powder and other explosives,	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	7
Wood alcohol and acetate of lime,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Cement,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Glass—bottles,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Lime,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Clothing—men's,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	...	.....	.....	.....	.....	.....	1
Bread and other bakery products,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Leather—tanned, curried, etc.,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Leather goods,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Furniture,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Lumber and timber products,	.....	2	.....	.....	.....	.....	.....	.....	.....	1	2	.....	.....	.....	.....	.....	.....	1
Planing mill products,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Wood novelties,	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Pulp goods,	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
Carpets and rugs,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Silk, silk goods and throwsters,	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....
Bars—lead and lead sheets,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Billets, blooms and slabs,	8	3	2	.....	.....	4	.....	.....	.....	.....	2	7	3	4	.....	.....	.....	1
Boilers, tanks and stacks,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....

Bolts, nuts and rivets,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Cars and car wheels,	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....
Castings—iron and steel,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Chains,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Engines—railroad,	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....
Forgings—iron and steel,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Hoops, bnads and cotton ties,	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....
Iron—pig,	.....	.....	.....	.....	.....	2	.....	.....	.....	1	.....	1	.....	2	.....	.....	.....	.....	.....
Machinery and parts,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Plates—iron and steel,	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....
Railroad supplies,	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Shapes—structural,	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....
Springs,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Watches, clocks, jewelry, etc.,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Wire products,	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Clay,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....
Slate—other than roofing,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Coal—anthracite,	2	7	23	.....	1	6	.....	1	.....	5	3	13	4	12	1	.....	.....	.....	12
Coal—bituminous,	1	4	19	.....	1	9	.....	.....	.....	3	1	16	3	7	.....	.....	.....	.....	10
Public service,	.....	4	.....	.....	1	37	.....	.....	.....	2	3	10	4	8	.....	.....	.....	.....	19
Miscellaneous,	.....	1	4	5	1	3	.....	.....	.....	5	1	2	2	10	.....	.....	.....	.....	4
Jobbers and wholesalers,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Mercantile establishments,	1	.....	.....	3	.....	1	.....	.....	.....	.....	.....	1	1	2	.....	.....	.....	.....	1
Municipalities,	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
Totals,	20	34	59	15	6	77	2	2	1	24	15	68	22	61	1	2	.....	.....	71

FATAL ACCIDENTS BY CAUSE, NATURE OF INJURY, SOCIAL CONDITION, COUNTIES, DURING DECEMBER, 1916—Continued.

Industries.	Sex.		Social Condition.		No. of Dependents.	Class.			Totals.	By Counties.	
	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service			
Brick, cement and stone work,	2	.....	1	1	1	2	.....	.....	2	Allegheny,	37
Building construction,	6	.....	6	.....	4	6	.....	.....	6	Armstrong,	1
Paving and road construction,	2	.....	.....	2	.....	2	.....	.....	2	Beaver,	2
Roofing and sheet metal work,	1	.....	1	.....	.....	1	.....	.....	1	Bedford,	2
Chemicals,	3	.....	3	.....	4	3	.....	.....	3	Berks,	2
Oils—essential,	1	.....	1	.....	2	1	.....	.....	1	Blair,	3
Oils—refined, kerosene, etc.,	1	.....	1	.....	.....	1	.....	.....	1	Butler,	2
Powder and other explosives,	8	.....	7	1	7	8	.....	.....	8	Cambria,	9
Dood alcohol and acetate of lime,	1	.....	1	.....	.....	1	.....	.....	1	Cameron,	3
Cement,	1	.....	.....	1	.....	1	.....	.....	1	Carbon,	4
Glass—bottles,	1	.....	1	.....	3	1	.....	.....	1	Centre,	1
Lime,	1	.....	1	.....	7	1	.....	.....	1	Chester,	3
Clothing—men's,	1	.....	1	.....	.....	1	.....	.....	1	Clarion,	2
Bread and other bakery products,	1	.....	.....	1	.....	1	.....	.....	1	Clearfield,	5
Leather—tanned, curried, etc.,	1	.....	1	.....	2	1	.....	.....	1	Clinton,	1
Leather goods,	1	.....	1	.....	.....	1	.....	.....	1	Columbia,	1
Furniture,	1	.....	1	.....	3	1	.....	.....	1	Crawford,	1
Lumber and timber products,	3	.....	3	.....	1	3	.....	.....	3	Cumberland,	2
Planing mill products,	1	.....	1	.....	.....	1	.....	.....	1	Dauphin,	8
Wood novelties,	1	.....	1	.....	.....	1	.....	.....	1	Delaware,	7
Pulp goods,	2	.....	2	.....	.....	2	.....	.....	2	Erie,	5
Carpets and rugs,	1	.....	.....	1	.....	1	.....	.....	1	Fayette,	4
Silk, silk goods and throwsters,	2	.....	1	1	3	2	.....	.....	2	Huntingdon,	1
Bars—lead and lead sheets,	1	.....	1	.....	.....	1	.....	.....	1	Indiana,	2
Billets, blooms and slabs,	17	.....	11	6	12	17	.....	.....	17	Jefferson,	4
Boilers, tanks and stacks,	1	.....	1	.....	2	1	.....	.....	1	Lackawanna,	10

Bolts, nuts and rivets,	.....	1	1	.....	1	1	.....	.....	1	Lancaster,	1
Cars and car wheels,	2	.....	2	.....	3	2	.....	.....	2	Lawrence,	1
Castings—iron and steel,	1	.....	.....	1	.....	1	.....	.....	1	Lebanon,	1
Chains,	1	.....	1	.....	.....	1	.....	.....	1	Lehigh,	4
Engines—railroad,	2	.....	2	.....	3	2	.....	.....	2	Luzerne,	21
Forgings—iron and steel,	1	.....	.....	1	.....	1	.....	.....	1	Lycoming,	1
Hoops, bands and cotton ties,	2	.....	2	.....	3	2	.....	.....	2	McKean,	3
Iron—pig,	3	.....	1	2	7	3	.....	.....	3	Mercer,	2
Machinery and parts,	1	.....	1	.....	2	1	.....	.....	1	Montgomery,	4
Plates—iron and steel,	2	.....	2	.....	2	2	.....	.....	2	Northampton,	8
Railroad supplies,	1	.....	1	.....	2	1	.....	.....	1	Northumberland,	6
Shapes—structural,	2	.....	1	1	.....	2	.....	.....	2	Perry,	1
Springs,	1	.....	1	.....	.....	1	.....	.....	1	Philadelphia,	26
Watches, clocks, jewelry, etc.,	1	.....	1	.....	3	1	.....	.....	1	Pike,	1
Wire products,	2	.....	2	.....	5	2	.....	.....	2	Potter,	2
Clay,	1	.....	1	.....	.....	.....	1	.....	1	Schuylkill,	11
Slate—other than roofing,	1	.....	1	.....	2	.....	1	.....	1	Somerset,	3
Coal—anthracite,	45	.....	35	10	89	.....	45	.....	45	Tioga,	2
Coal—bituminous,	37	.....	26	11	49	.....	37	.....	37	Venango,	1
Public service,	44	.....	34	10	37	.....	.....	44	44	Warren,	1
Miscellaneous,	19	.....	14	5	21	19	.....	.....	19	Washington,	7
Jobbers and wholesalers,	1	.....	1	.....	2	1	.....	.....	1	Westmoreland,	9
Mercantile establishments,	5	.....	2	3	.....	5	.....	.....	5		
Municipalities,	2	.....	2	.....	1	.....	.....	2	2		
Totals,	239	1	182	58	283	110	84	46	240		240

MONTHLY BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

JOHN PRICE JACKSON, Commissioner

A BULLETIN OF INFORMATION FOR THE PUBLIC

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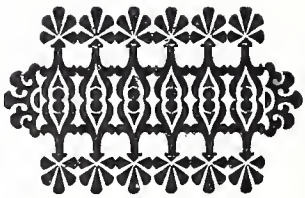

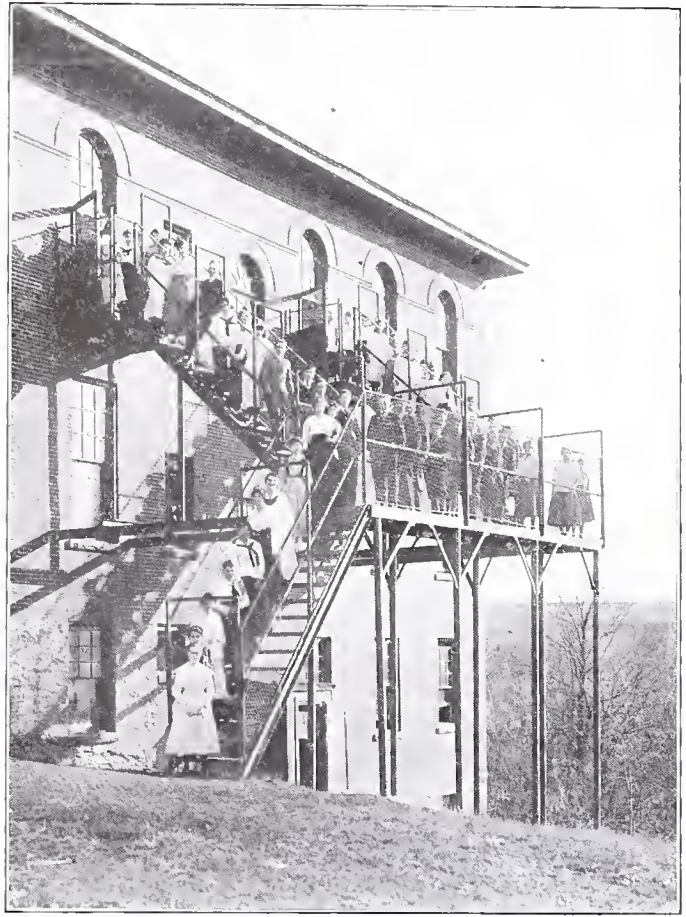

THESE SCHOOL CHILDREN ARE TODAY SAFE FROM THE DANGERS OF FIRE AND PANIC.

Two new fire escapes of the ultra-safe type, shown at ~~right~~ of the page, have replaced the one escape shown at the ~~left~~, on a school building in Pennsylvania. Read the story on page 32, of this transformation, accomplished through co-operation of the school authorities with the Division of Buildings of the Department of Labor and Industry.

STATEMENT BY COMMISSIONER JOHN PRICE JACKSON, ON THE EXTREME NEED, AT THE PRESENT TIME, FOR CONSERVING THE HUMAN RESOURCES OF PENNSYLVANIA BY REDUCING OR ELIMINATING INDUSTRIAL ACCIDENTS.

Safety in industry has become a war measure.

Conservation of the life and health of able-bodied workers in Pennsylvania in the face of war is a tremendously vital factor in industrial preparedness.

Two hundred and ninety-one workers were killed in Pennsylvania industries during the month of March and 23,037 others were injured.

Seven hundred and fifty workers have been killed in Pennsylvania's industries since January 1, 1917,—an average of 250 a month.

The total of killed and injured for the first three months of this year is 64,328.

Employers and employes are urged to enlist their forces now in a far more vigorous and intensive campaign for industrial safety than has ever before been waged in this State.

An army of 100,000 men may be called from the Commonwealth of Pennsylvania during the coming year.

An army of workers of even greater numbers will be required in Pennsylvania's great industrial plants to maintain the army in the field.

It is difficult to realize that two and one-half times 100,000 industrial workers were injured in Pennsylvania plants alone during the twelve months of 1916 and more than two and one-half per cent. of 100,000 were killed in Pennsylvania's industries during last year.

In other words, more than two regiments of workers in Pennsylvania's industrial army were completely annihilated in one year and thousands of other workers were disqualified from further industrial activity or diminished in industrial efficiency.

That waste only concerns human resources.

Pennsylvania may be called upon to pledge millions of wealth for a national defense budget.

During the month of March of this year. 154 agreements for workmen's compensation to dependents of workers killed were filed in the Workmen's Compensation Bureau of the Department of Labor and Industry involving a total award of $410,168.48. In addition to that amount, compensation paid to injured workers during the month of March alone aggregated $209.213.80. making the total award

for the month $619,392.28. If that rate continues for the twelve months of 1917 the total compensation cost will exceed $7,000,000.

During last year the awards in compensation for disabled workers and for dependents of workers killed in industrial accidents in Pennsylvania was more than $4,225.000.

Many of the industrial accidents creating this great financial outlay were preventable.

To that enormous money cost,—a direct drain on Pennsylvania's financial resources,—must be added the cost of medical and surgical services, the amount lost in wages by the workers removed permanently or temporarily from industry, the economic loss to the State by death of industrial producers, the loss to industry by the labor turnover incidental to the casualties, the cost of the consequent interruptions of the regular industrial processes, and the administrative expense for the distribution of the awards.

The burden of conserving the human and economic resources of Pennsylvania against the waste of industrial accidents rests on employers, employes and the Pennsylvania Department of Labor and Industry.

Some of the causes of industrial accidents are:

Carelessness.
Speeding up.
The new man hazard.
Unguarded danger points.
Failure to keep in constant service safeguards provided.
Lack of Americanization.

Carelessness especially must be guarded against. Reckless hardihood by employes is rarely the cause of accident. It is the momentary lapse of carefulness and caution by even experienced employes in dangerous trades that causes accidents and injuries. This hazard is always increased when plants are worked for maximum production.

Speed in industry, a direct result of great demand for production must be conducted under the most rigorous and constant vigilance both by employers and employes.

New employes, unfamiliar with dangerous processes, must be judiciously placed in industry so that their "greenness" in the work may not result in injury to themselves or fellow-workers. The new man hazard is always great during periods of extreme demand for labor, producing an unusual mobility of industrial workers.

Hundreds of thousands of safeguards and safety appliances have already been installed by Pennsylvania employers. However, there still are danger points which records received at Harrisburg indicate are daily causing accidents.

Every safeguard designed to prevent injury should always be kept in place by employes and goggles or other individual devices supplied by employers should never be discarded even temporarily in dangerous work.

Alien workers should be taught English that orders may be understood.

Safety committees should be organized in every shop through cooperation of employers and employes.

It must be remembered that the primary purpose of workmen's compensation is to prevent industrial accidents. While the employe, who is injured at work, or the dependents of an employe killed, obtain to-day in Pennsylvania a money compensation affording protection from want, that compensation cost becomes a part of the cost of production, is included in the ultimate price of commodities, is distributed among all consumers and contributes its part to increasing the cost of living.

The forces and facilities of the Pennsylvania Department of Labor and Industry are always available to employers or employes for solution of problems concerning industrial safety.

Trained inspectors of the Department are in all sections of the State inspecting plants for danger points and investigating accidents to formulate means for preventing a reoccurrence of such accidents.

The Industrial Board of the Department of Labor and Industry has been and is carefully formulating required regulations for the promotion of safety in industry in general.

A constant campaign of safety education is conducted by the Department by means of motion picture films exhibited throughout the State and through great masses of safety literature.

Accident Prevention Posters are available for all plants.

Safety folders or "Timely Hints" for prevention of injury of various classes of workers are also available to employers and employes.

The Monthly Bulletin, the Department's magazine for safety, will be mailed to any employer or employe on request.

May there be a renewed effort of employers and employes and governmental agencies for the conservation of Pennsylvania's human and industrial resources in this time of war.

INDUSTRIAL BOARD ACTIVITIES DURING THE SIX MONTHS FROM JULY 1, 1916 TO JANUARY 1, 1917.

By MRS. SAMUEL SEMPLE, Member of Board.

During the last six months of 1916, the Industrial Board had before it constantly; in one form or another, the question of safety for human life and limb in the industries of Pennsylvania. The necessity for this was demonstrated by the accident records as kept by the Compensation Bureau for the first six months of the year.

As month by month the accident total mounted to undreamed of figures, the need of standards for safety in industries, in locating, guarding, maintaining and using machinery, and in the construction of buildings, became more and more apparent. It also became apparent that the greatest success that could possibly be attained in this kind of work would not make complete success in eliminating industrial risk. The human element in the case furnishes a large per cent of the danger in accident production; and, in handling the human element, education is the only possible way to achieve results.

New Safety Standards.

Along the former line, the Board had already made considerable progress, having promulgated, up to July 1, 1916, seventeen standards or codes, regulating safety conditions in as many industries. To these, four were added during the six months under discussion. These covered the subjects of cranes, textile manufacture, electrical work, (except that which relates to public service, which will be supplied later) and explosives. The codes governing ladders, elevators, and the milling of cereals were amended in the interest of practicability. Work was started on codes to apply to scaffoldings, the printing trade, the paint and color trade, and the handling of wood alcohol, benzol, and other highly volatile liquids likely to produce asphyxiation of those working with them.

Code Making.

Of the new codes adopted, the electrical code was the most highly technical, and was of necessity the result of the work of experts in electrical lines, accepted on the approval of the engineers of the Department. It may be said right here that the Industrial Board is frankly in the position of being dependent upon expert technical advice concerning practically all of the standards it adopts for use in

Pennsylvania. Objection is occasionally raised to the safety standards of the Department of Labor and Industry that they are the unworkable theories of a group of people who know nothing of the actual business involved. The Industrial Board has never arrogated to itself the position of "would-be" expert in issuing standards which it alone has created. The practice has been that a draft of such standards has been made in consultation with representatives of the industries to which they shall apply; and the further practice has been that such representatives shall include both the administrative and the so-called "practical" sides of these industries.

After such rough draft of regulations has been formulated, a hearing has been called, to which have been invited the representatives of all the concerns engaged in that industry in Pennsylvania. The invitations have been given in individual form by mail so far as the concerns are listed in the industrial directory of the State; through trade journals; and through the public press. When business men object that such standards have been put through in the dark, they convict themselves of inattention to these invitations as matters of importance. After such public hearings have threshed over the material of the proposed standards, and after the technical men of the Department of Labor and Industry have sifted and collated the material so gathered, the result is presented to the Industrial Board for its verdict. The Board, having been in close touch with the whole process up to this point, is prepared to have a fairly intelligent idea as to what constitutes a concensus of expert opinion as to safe and desirable practice in the business in question, and to make its decisions on that basis. In some instances, like that of the electrical code just mentioned, it must rely even more directly upon technical opinion. Under these circumstances its most important concern must be the selection of that technical opinion.

The Textile Code, now virtually completed for adoption, marks a new era in safety standard work. The looms of the world have been practically unguarded. So complicated is the great machinery of the textile industry that making it "safe"—from the modern viewpoint—has been looked upon as a hopeless task. The Pennsylvania Industrial Board has had the honor to blaze the way in this direction. Practical weavers assisted in working out systems of guards for the machinery with which they were familiar. Manufacturing firms co-operated by trying out devices so planned; and the Textile Code has been built up on these lines, and represents patient, careful work covering about two years.

While the code is spoken of in the singular, it really constitutes a group of codes, covering the different kinds of weaving—silks, velvets,

woolens, carpets, laces, hosiery, underwear, etc. The Pennsylvania safety code for textile machinery is the first of its kind in this country.

The Crane Code was one of the instances of a safety problem that simply must be met from the double point of view of construction and maintenance, and of operation. A crane is an article of such size and momentum that its movements involve the safety of many beside its operator. The crane code—like the boiler code adopted earlier—therefore contains a section, equally mandatory, devoted to crane operation.

The explosives Code—to become operative April 1, 1917,—was another instance of work that must of necessity be done by technical experts, not only of careful professional training, but of actual experience in industry. Starting out at first to compile a code that should cover the whole range of explosives, including gases and liquids, it quickly became apparent that the subject must be divided, and that the initial work must be confined to what might be roughly described as explosive solids, including black powder, smokeless powder, wet guncotton and wet nitro-starch.

In the present experimental state of the chemical industry of the country, it was decided to be impracticable to include the nitro and amido compounds in any code issued at this time; but the Board does hope to issue in the near future a collection of recommendations which shall embody the best that is known to date concerning safe practice in the handling of these materials. These, it is expected, will form the basis of a future code for that part of the subject. Other divisions of the code, governing what may be described as explosive gases and liquids are under consideration for future promulgation.

New Feature In Safety Work.

Closely allied with the codes just described is the one concerning paints and colors which was put well under way during the last months of 1916. Here human welfare as affected by occupational disease appeared for the first time in Pennsylvania as an integral part of the problem of building up a safety code. The corroding and grinding of lead, the drying and mixing of colors, are all processes that are fraught with insidious danger unless they are carried on under the most carefully planned conditions, chief of which seems to be the control of dust. Again the co-operation of the manufacturers of paints and colors must be acknowldeged. The meetings for preliminary discussion of this code were notably experience meetings, where men deeply interested in both the commercial and the human side of the business exchanged information as to the latest improvements in their plants.

Since the outbreak of the European war, chemistry has been thrust into prominence in this country as one of its great needs and developments. It is therefore small wonder than an appreciable proportion of code work in Pennsylvania during the last few months has centered around industrially applied branches of that science. The proposed codes on wood alcohol, benzol, and other volatile liquids likely to produce asphyxiation of those who handle them, serve further to illustrate this trend.

Amended Standards.

Among the codes amended during the latter part of 1916, that on the milling of cereals was the most intrinsically interesting. The milling industry is one of the oldest in Pennsylvania. Early settlers, of necessity, brought with them this art as it was then practiced in England and other European countries. The streams of the State were punctuated by water power mills, the earliest of which were devoted to the crushing of the various grains cultivated on the farming land. Many of these were set in close connection with villages of stone houses that might have been transplanted bodily from England in rows. A few of these old stone mills in the eastern part of the State still grind in stately fashion, the water dripping from the great wooden wheels still furnishing the motive power. As settlement moved west, the construction of these mills became sometimes of wood, first of logs, later of boards. Gradually the forests lessened, the streams decreased, until in some cases they were no longer able to furnish the necessary power; and a more rapid age brought about the introduction of steam into these old structures.

The adoption of a milling code suitable for a strictly modern mill was comparatively easy. But to work out one that should safeguard these old mills, and yet work no injustice, was a different task. Co-operation from the Millers Association, and patience on the part of every one, finally brought about a fairly satisfactory code.

Enforcement of Standards.

It might seem that when a reasonably satisfactory safety code has been adopted and promulgated by the Industrial Board the work of the Board on that point has been accomplished. As a matter of experience, however, it has been found that the Board is frequently called upon also to suggest or to rule concerning the lines of enforcement. Certain subjects handled by the Department of Labor and Industry are also partially handled by other Departments of the State; and some are still further complicated by being partially under municipal control. In such cases the Board has attempted to bring about a systematized co-operation among all the branches of the gov-

ernment that are involved, and, in some cases, it has definitely ruled concerning its own acceptance of such division of responsibility.

The Boiler Code is a case in point illustrating what has been described. Boilers in mines, in work under the Public Service Commisson, in cities of the first and second classes, and in third class cities which have established municipal control and inspection, are recognized as not being a part of the responsibility of the Department of Labor and Industry; and the Industrial Board has formally registered this fact in its rulings. On the other hand, the need for co-operation on the material contained in safety standards has been recognized as of equal importance with co-operation in their enforcement. A constant endeavor is being made to bring about a high level of uniformity in the standards to be applied by the co-operating departments of the State, and of municipalities.

Approvals Committee.

An important part of the Industrial Board's safety work has been the consideration of mechanical devices intended to contribute to the safety of industry through guarding of machinery and surroundings. With the desire to give an official impetus to the development of safety measures, the Board created what is known as an "Approvals Committee," presided over by a member of the Board, and made up of Department experts in industrial hygiene and mechanics, with additional members representing the Insurance Rating Bureau, the Public Service Commission and the Fire Marshal's Department. To this Committee, meeting at least once a month, makers of safety devices are invited to submit their models for demonstration and examination. Stringent conditions surround this submission, making the approval of the Committee, if finally granted, stand as a mark of real merit in the device. Upon recommendation of the Approvals Committee the matter is passed along to the Industrial Board for final decision and action. In addition to the submission of the device for examination, the maker is required to leave a working model in the custody of the State. In this way a safety museum is being created that should be of great service to the industrial bodies of the State. So far the safe and accessible housing of these exhibits has not been satisfactorily arranged for, but is hoped for in the near future.

Safety Devices.

The subjects touched upon by this safety device work are many and various. In the last six months they have included attempts to lesson fire risk, to increase the safety of elevators, to assist in resuscitation from asphyxiation or drowning, and to reduce danger from the former cause, to increase safety of boilers, to guard against slipping

whether of persons or of heavy weights as a cause of industrial accidents, to reduce eye risks, etc., etc. Certain lines of this approval work need access to laboratories for their full development. It is hoped that the State's institution, The Pennsylvania State College, may be used for this branch of the service. In the meantime co-operation with established business laboratories has been mutually helpful.

As to the breadth of application of the work of the Approvals Committee, attention has already been called to the fact that a member of the Public Service Commission sits as a member of the Committee, thereby making available to the Public Service Commission any help that the Committee can give. The same condition applies to the Fire Marshal's Department. It must, however, be understood that the Approvals Committee does not presume to decide upon devices that come exclusively under the work of any other State Department.

Plant Organization for Safety Education.

In addition to the issuance of safety codes, and to the review and approval of safety devices, the Industrial Board has also, during the six months under review, done a great work, through one of its committees, in advancing safety through organization of employes in the industrial plants of the State. Statistical information now available indicates that a material per cent of industrial accidents are directly attributable to unguarded machinery, or conditions coming properly under that general heading. To bring safety work up to the maximum of efficiency, it therefore becomes at once apparent that the human element must be given large place, and that education of workers in safety methods must be carried on systematically. With the introduction of guards and safety devices on machinery must go also the co-operation of the workmen as to their use, and the continuous education of those workmen as to what constitutes safe practice in the service which they must each day perform. A number of the larger employing firms is to be credited with having taken the initiative in this work, and with having established in their plants effective safety organizations by which the co-operation of the workmen is secured toward accident prevention. These organizations aim not only at developing a spirit of caution, and a due regard for the use of existing safeguards, but many of them put a premium, of honor and money, upon safety suggestions, either as to machinery or practice. They give also a practical knowledge of first aid work that, when an accident does occur, intelligent relief may be administered until a physician is available. It is openly admitted by manufacturers that such organization in the interest of safety has been greatly hastened by the realization of the economic cost of accidents. Just in proportion as manufacturers have analyzed the money charge upon their

business caused by accidents, they have taken up the safety propaganda and organized to push it. With this experience as a basis upon which to urge its appeals, the Safety Committee of the Industrial Board asked the manufacturers of the State to put safety work and organization into their plant programs for the year. About 1,700 responded favorably, and are now, in greater or less degree, engaged in promoting the safety idea in their business.

Co-operation of Labor Bodies.

One other angle of this question invited consideration;—that pointing directly to the workmen through the trades unions. At the last annual meeting of the Pennsylvania State Federation of Labor, the President of that body, in his annual report, urged upon each local union the formation of safety committees to act in an advisory capacity to the Industrial Board of the Department of Labor and Industry. The convention adopted the suggestion; and, upon that foundation, the Safety Committee of the Industrial Board appealed also to the unions. It asked for the definite appointment of the suggested union safety committees for the promulgation of safety methods, for the study of the safety standards issued by the Industrial Board, and for suggestions for their improvement and for material to be used in additional future codes. Some 400 unions have definitely responded to this appeal and the creation of a sentiment for "safe practice" among union men is a great step in education along this line.

As a special item of interest in the campaign for safety may be mentioned the use made of motion pictures. The Department owns several reels which preach the safety doctrine most powerfully, and which are kept busy throughout the State.

Annual Conference.

While not directly the work of the Industrial Board, a discussion of this matter could not justifiably omit reference to the welfare and efficiency conference held in Harrisburg in November, 1916, by arrangement of the Department of Labor and Industry. Safety in the industries of Pennsylvania was the guiding theme of the three days' meeting. It was presented through the connections furnished by the Workmen's Compensation Act, the charges of accident upon industry, the difficulties of safe guidance of industrial processes where workmen do not understand English, the risks of industrial disease, description of the fine work of safety organizations in certain manufacturing plants in the State, the humanitarian application of the whole broad subject, and even the effect upon safety of the reduction of the labor turnover through bettered plant conditions and the pay-

ment of a stabilizing wage. Practical leaders, both of industrial organization and of labor organization, were present, and joined freely in discussion. It seemed as though the result must be an impetus toward better understanding, and better conditions as to industrial safety all along the line in Pennsylvania.

Perhaps it may not be daring too much to believe that this better understanding and better feeling may not confine itself to the bare point of industrial safety, but may include the whole great economic situation involved in the labor and in the organized industry of this great State.

BUREAU OF INSPECTION DURING MARCH AIDS IN ENFORCEMENT OF THE WORKMEN'S COMPENSATION ACT, PROMOTES SAFETY IN FACTORIES, INVESTIGATES ACCIDENTS TO PREVENT RECURRENCE, REVIEWS BUILDING PLANS FOR SAFETY AGAINST FIRE AND PANIC AND SUPERVISES INSPECTIONS OF BOILERS AND ELEVATORS.

Inspectors of the Bureau of Inspection have been active during the month of March enforcing the labor laws and regulations of the Industrial Board aimed to promote safe practices in manufacturing plants. Fatalities and serious injuries, resulting from industrial accidents during the month, have been investigated by inspectors for elimination of the causes responsible for each accident.

The inspectors have been directed to visit the victims of serious accidents or the dependents of workers killed in industrial accidents to explain the provisions of the Workmen's Compensation Law for the purpose of eliminating misunderstandings or possible loss of compensation. This action has been adopted for more intensive enforcement of the Workmen's Compensation Act and in a measure to aid the referees of the various districts who are frequently called upon to explain the provisions of the Compensation Law.

Division of Accident Investigation.

In the Division of Accident Investigation of the Bureau of Inspection, all accident reports, indicating a fatal or serious injury, are reviewed and instructions are sent to the inspector nearest the accident, to make a complete investigation, eliminate the causes if possible and submit to the Bureau of Inspection a complete report of the accident investigated. Reports received from field inspectors include the following conditions.

FAILED TO STOP MACHINERY. An employe of a knitting mill noticed some material working out of an extractor in the washroom. He had been frequently warned not to push material back into the extractor without stopping the machinery. Previous warnings were either forgotton or disregarded and as a result the employe's wrist was caught in the machinery and his arm was torn from the shoulder.

CARELESSNESS. An assistant to a weigh master of a steel company was starting a fire in the stove of a shanty in which some painters had left a gallon can partly filled with highly inflammable drying liquid. The employe, starting the fire, took the can and directed from it a small stream into the fire. The liquid became ignited and the flame leaped up the stream to the can causing it to explode. The employe was so severly burned that he died within a few days.

INFECTION. A woman employed as a cook in a hotel punctured her finger with a pin. She considered the injury so trifling that she paid little attention to it. Infection resulted and her death occurred within sixteen days.

GIRLS SAVED BY FIRE DRILLS. One hundred girls marched to safety from a factory when fire was discovered in the waste paper chute on the first floor of a four story building.

Remembering the death of five girls who became panic stricken and leaped from the windows of a shirt waist factory on the same site five years ago, the company has had regular fire drills in the factory. When the gong sounded, the foremen on the upper three floors marched the girls to the stairways and with the exception of one girl who fainted, nothing interfered with the smoothly working system.

The above account is one of many actual occurrences which emphasize the need and importance of holding fire drills as required by the Fire Drill Act of June 7, 1911.

HORSEPLAY. An employe of a hardware company was engaged in cleaning the pavement when a fellow employe carelessly threw an empty tin can which struck the first employe and cut a gash about an inch long above his left eye. The wound was dressed, but shortly afterward swelling appeared and ten days later the man died of blood poisoning. The physician who first dressed the wound told the injured man to return to him for subsequent treatment, but the worker failed to do so and paid the penalty for his neglect with his life.

Division of Buildings.

Eighty-one sets of plans for new structures and forty-five sets of revised plans were received at the Division of Buildings and Bureau of Inspection during the month of March, from architects and contractors in all sections of the State. Of these 126 sets of plans, mainly for

promoting safety of occupants of structures against fire and panic, eighty-two were approved,—an increase of twenty over the previous month.

The number of plans submitted to the Division of Buildings is constantly increasing and indicates the growing attitude of co-operation, on the part of architects and contractors, with the aims of this Department for safety. Even in cases where disputes might arise as to jurisdiction of this Department to supervise plans of certain structures, the plans are usually submitted by the architect and contractor for the purpose of being within the statutes as well as to protect the occupants of the buildings.

In every case where plans are submitted to the Division of Buildings the resulting conference with the architect and owner usually develops many good points along lines of preventing fire or panic.

A trifling detail, which may cause much destruction, especially in schools and factories, not of strictly fire proof material, is the location of closets. The Division of Buildings urges in all cases that closets be not placed under stairways or near fire escape exits. Closets, where janitors or other workers may store waste, brooms, papers, oils or rags are always a menace from the standpoint of fire.

In all structures a heating plant should be located in a room separated from the other parts of the building by fireproof walls, floors and ceilings. It is even better if the heating plant can be located in a separate building.

The record of plans approved by the Division of Buildings of the Bureau of Inspection, and fire escapes ordered, during the month of March is as follows:

LIST OF PLANS APPROVED DURING MONTH OF MARCH, 1917, DEPARTMENT OF LABOR AND INDUSTRY, BUREAU OF INSPECTION.

FIRE ESCAPES.

Town.	Building.	Architect or Contractor.	Owner.
Erie, ...	School, ...	.....	Ached-Chester Jewish Reformed Congregation.
So. Bethlehem,	Apartments, ...	LValenza Iron Works, ...	Orlando Beniamini.
Wyoming, ...	Hall and store, ...	Scranton I. & S. Co., ...	I. O. O. F.
So. Bethlehem,	Apartments, ...	Remppis Co., ...	Jos. Kerosmar.
Lancaster, ...	Apartments, ...	G. W. Anne & Son, ...	J. F. Nissley.
West Pittston,	Mill, ...	Scranton I. & S. Co., ...	Southard Knitting Co.
Eaglesmere, ..	Hotel, ...	Harris & Richards, ...	Wm. Wood, Mgr.
Delaware Water Gap,.	Hotel, ...	Cameron Engineering Co., ..	Pokona House.
Delaware Water Gap,.	Hotel, ...	Cameron Engineering Co., ..	Laurel Ridge House.
Mt. Pocono, ..	Hotel, ...	Cameron Engineering Co., ..	Fairview Hotel.
Johnstown, ...	Hotel, ...	Geo J. Griffith I. Wks., ...	Wm. Ernst.
Mt. Clare, ...	School, ...	.....	Mt. Clare School Board.
Reading, ...	Apartments, ...	Wayne M. High, ...	Corbit Bros.
Lancaster, ...	Hall and Pool Room,	G. W. Anne & Son, ...	Mary B. Steinmetz.
Reading, ...	Factory, ...	W. L. Kieffer, ...	J. W. Weidner.
Auburn, ...	Lodge Hall, ...	W. L. Kieffer, ...	First National Bank.
York, ...	College, ...	J. A. Dempwolf, ...	York Collegiate Institute.
Delaware Water Gap,.	Hotel, ...	Scranton I. & S. Co., ...	Frank C. Howard.
St. Clair, ...	Dance Hall, ...	W. F. Remppis Co., ...	J. M. Boone.
Mt. Union, ...	Store and Apartment,	Noe-Wadlow Co., ...	Mr. Appleby.
Lewistown, ...	Hotel, ...	Noe-Wadlow Co., ...	Busch Estate.
Kittanning, ..	Store and Apartment,	Noe-Wadlow Co., ...	W. B. Merdith.

FIRE ESCAPES—Continued.

Town.	Building.	Architect or Contractor.	Owner.
Kittanning, ..	Store and Apartment,	Noe-Wadlow Co., ...	R. W. Pollock.
Kittanning, ...	Hall and Apartment,.	Noe-Wadlow Co., ...	Mr. Neale.
Harrisburg, ..	Office Building, ...	J. H. L., ...	Robt. Ross Jones.
Braddock, ...	Hospital, ...	Taylor & Dean, ...	Braddock General Hospital
So. Bethlehem,	Apartments, ...	W. F. Remppis & Co., ...	Metzgar & Young.
Pittsfield, ...	School, ...	Klein D. Baker, ...	Pittsfield School Board.
Bethlehem, ...	Apartments, ...	W. F. Remppis, ...	M. J. Judas.
Braddock, ...	Apartments, ...	Homestead Iron Works, ...	Max Miller.
Altoona, ...	Store, ...	G. W. Anne & Son, ...	Lewis Bergman.
Lancaster, ...	Hall and Pool Room,	G. W. Anne & Son, ...	Mary B. Steinmetz.
Lancaster, ...	School, ...	G. W. Anne & Son, ...	W. Lampeter School Board.
York, ...	Bank, ...	E. Wager-Smith, ...	City Bank.
Shamokin, ...	Factory, ...	W. F. Remppis & Co., ...	D. J. Jones.
Del. Water Gap	Hotel, ...	Cameron Engineering Co., ..	G. R. Tucker.
Mt. Pocono, ..	Hotel, ...	Cameron Engineering Co., ..	Fairview Annex.
Bangor, ...	School, ...	F. M. Peter & Bro., ...	C. F. Spangenberg.
Mountain Home	Hotel, ...	Scranton I. & S. Co., ...	Monomonock Inn.
Mountain Home	Hotel, ...	Scranton I. & S. Co., ...	Mr. Heller.
Dubois, ...	Hospital, ...	Harrington & Howard, ...	City Hospital Association.
Center Hall, .	Lodge Hall, ...	G. W. Anne & Son, ...	S. W. Smith.
Larksville, ..	Apartments, ...	Keystone Mfg. & Supply, ...	Frank Supan.
Lancaster, ...	Hotel, ...	G. W. Anne & Son, ...	Frank Ammon.
Lancaster, ...	Mill, ...	C. E. Urban, ...	Stehli Silk Corporation.
Shamokin, ...	Elks Home, ...	W. F. Remppis & Co., ...	B. P. O. E.
Coatesville, ..	Apartments, ...	Lancaster M. & S. Works, ..	B. Brown.
Woodlawn, ...	Hotel, ...	Homestead Iron Works, ...	Chas. L. Walther.
Chester, ...	Apartments, ...	E. A. Wilson, ...	Geo. Shober.
So. Bethlehem,	Apartments, ...	So. Bethlehem O. I. Works..	W. H. Repsher (Lot 1.)
So. Bethlehem,	Apartments, ...	So. Bethlehem O. I. Works..	W. H. Repsher (Lot 2.)
Carnegie, ...	Hall, ...	Homestead Iron Works, ...	Knights of Malta.
Franklin, ...	Hall, ...	Klein D. Baker, ...	Harry J. Byrer, Trustee.

THEATRES.

Brownsville, ..	Theatre, ...	H. M. L., ...	Else Hommel.
Marion Hghts.,	M. P. T., ...	F. R. Schweitzer, ...	John Pipa.
Norristown, ..	Theatre, ...	.....	Frank Leichthaman.
Allentown, ...	M. P. T., ...	Ruhe & Lange, ...	The Strand.
Pocono Pines,.	Theatre, ...	W. L. Blithe, ...	Pocono Pines Assembly Hotel Co.
Endeavor, ...	M. P. T., ...	.....	G. E. Warden.

BUILDINGS.

Charleroi, ...	Warehouse, ...	Charleroi Lumber Co., ...	R. C. Mountser.
Evans City, ..	Hall, ...	.....	C. E. Glenn.
Allentown, ...	Apartments, ...	.....	Oliver S. Schadt.
Altoona, ...	Store, ...	Francis J. Shollar, ...	Lewis Bergman.
Altoona, ...	Mercantile, ...	.....	Chas. Michael.
Allentown, ...	Fire and police Station.	Ruhe & Lange, ...	City of Allentown.
Reading, ...	Church, ...	F. H. Brooke, ...	Second Reformed Church.
Harrisburg, ..	Department Store, ..	C. Howard Lloyd, ...	David Kauffman.
Paradise, ...	Store Building, ...	J. A., ...	E. Denlinger.
So. Bethlehem,	Apartments, ...	J. R. Wilt, ...	Wm. Stuber.
Stroudsburg, .	Mill, ...	E. J. Schweitzer, ...	Monroe Silk Mills.
Lehighton, ...	Home.	M. G. Pretzman, ...	Aerie 650, F. O. E.
Midland, ...	Store and Apartments	Geo. O. Rogers, ...	R. Deutsch.
Coatesville, ...	Apartments, ...	R. A. Kerns, Jr., ...	B. Brown.
Woodlawn, ...	Hotel, ...	S. G. Savichar, ...	Chas. L. Walther.
Wilkes-Barre,	Office Building, ...	John T. Winbrim, ...	Bell Telephone Co.
Ashland, ...	Mill, ...	Geo. H. Keefer, ...	Mt. Carmel Silk Co.

WASH AND TOILET ROOMS.

Pittsburgh, ...	Factory, ...	S. K. (Brass Foundry), ...	Pitts. Valve Fdy. & Const. Co.
Pittsburgh, ...	Factory, ...	S. K. (Steel Foundry), ...	Pitts. Valve Fdy. & Const. Co.
Bridgeport, ..	Foundry, ...	.....	Jos. H. Roach & Co.
Pittsburgh, ...	Shops, ...	S. A. V., ...	Epping Carpenter Pump Co.
Pittsburgh, ...	Factory, ...	S. K. (Iron Foundry), ...	Pitts. V. F. & C. Co.

BLOWERS.

Trafford, ...	Shops, ...	Cleveland Blow Pipe & Mfg. Co.	Westinghouse Machine Co.

SUMMARY.

Fire escapes	53
Theatres	6
Buildings	17
Wash and Toilet Rooms	5
Blowers	1
Total,	82

New plans received during the month of March	81
Revised plans received during the month of March	45
Total	126

FIRE ESCAPES ORDERED DURING MARCH, 1917.

Town.	*Building.*	*Representative.*
Catawissa	Knights of Golden Eagle Lodge	E. P. Harder.
Sayre	The National Bank	
Sayre	Sayre Land Co.	Charles West.
Kingston	Wyoming Seminary (4 fire escapes)	L. L. Sprague.
Sayre	A. D. Park	
Sharon	Central Dist. Telephone Co	Mr. Krause
Mt. Union	B. F. Barkey	
Marianna	Marianna Hotel	Davidson & Klein.
Reading	H. L. Boas	
Water Gap	The Howard House	F. C. Howard.
Henryville	Henryville House	Eugene Henry.
Mt. Pocono	Meadowside Inn	E. H. Smith.
Sayre	Sayre Electric Co	Daniel P. Furney.
Altoona	Tenement	Jacob Lewis.
Punxsutawney	Lyman M. Lewis	
Freeport	F. A. Seitz	
Dickson City	I. O. O. F. Association	George F. Adams.
Mt. Pocono	Fair View House	
Kane	New Fleming Hotel	R. F. Bly
Lancaster	Franklin House	John M. Ammon
Sayre	Cayuta Manufacturing Co	
Altoona	City Furniture Co	John J. Wolf.
Williamsburg	Lehigh Valley Silk Mills	H. V. Jones.
Jeannette	Pfister Heirs	Slelley & Martin.
Palmyra	J. Landis Shoe Co	

Division of Boiler Inspection.

Reports of inspections of 3,076 of the boilers in various sections of Pennsylvania were made to the Division of Boilers of the Bureau of Inspection during the month of March. These reports were submitted by inspectors having passed examinations conducted by the

Department of Labor and Industry and holding State certificates. One boiler was condemned during the month as unsafe for service. A number of serious conditions in other boilers were reported and immediate steps were taken for elimination of these faults. Many minor defects were reported and the Division of Boilers was active during the month issuing instructions for the correction of faulty conditions and advising boiler operators on proper care of boilers.

A summary of the inspection reports during March and the conditions reported were as follows:

Total inspections for March	3076
Internal	1650
External	1426
Internal Corrosions, Serious	23
Internal Corrosions, Minor	212
External Corrosions, Serious	3
External Corrosions, Minor,	66
Pitting, Serious	7
Pitting, Minor	169
Grooving, Serious	3
Grooving, Minor	26
Defective Tube Ends, Minor	189
Defective Furnaces, Minor	147
Fractures, Minor	20
Defective Water Gauges, Serious	10
Defective Water Gauges, Minor	99
Defective Safety Valves, Serious	9
Defective Safety Valves, Minor	45
Defective Pressure Gauges, Serious	19
Defective Pressure Gauges, Minor	49
Broken Stays	40
Compliances to reported defects	97

Division of Elevator.

No elevator should be operated without every proper safeguard.

Since the Division of Elevator Inspection of the Department of Labor and Industry has been in existence, great difficulty has been encountered in convincing passenger elevator owners that interlocks are an absolutely necessary safeguard.

Frequently the statement is made: "This elevator has been running for years and we have never had an accident"—which may be true and is true in a majority of cases. This fact, however, does not exempt the elevator owner from responsibility for the ever present possibility of dangerous and perhaps fatal accidents.

A few weeks ago an elevator accident came to the attention of the Elevator Division of this Department. It was found that a hydraulic

passenger elevator was operating without hatchway interlocks. A man had started for the stairway, and noticing a door standing ajar, passed through it, thinking it was the door to the stairway. It was the door which lead to the elevator shaft. The man fell a distance of twenty feet breaking his leg.

If this elevator had been equipped with interlocks, such an accident could not have occurred, and it would have been impossible for the landing door to have been open.

Considering that human carelessness and public thoughtlessness are ever present factors to be considered in every effort to secure safety for the public, elevator owners should not hesitate to install such safety appliances as will protect the life and limb of those riding on their cars in order to reduce to a minimum the possibility of accidents.

During the month of March the Elevator Division passed upon 816 reports of inspections of elevators in all sections of the State.

Minors May Not Work in Barrooms.

Inspectors frequently encounter cases where a minor has been employed in a barroom and where the proprietor has attempted to justify such employment by proving that the minor is his child or a relative who resides with him, and that the minor does not receive compensation for his work. The matter was submitted to the Attorney General's Department for an opinion and the decision under the Act of May 13, 1915, No. 177 is that this employment is illegal and the fact that a minor employed in a barroom is a member of the proprietor's family is not a proper defense.

BUREAU OF MEDIATION AND ARBITRATION AIDED IN SETTLING FORTY-SEVEN LABOR DISPUTES INVOLVING 14,644 EMPLOYES IN SEVEN DIFFERENT OCCUPATIONS AND IN TWELVE COUNTIES OF PENNSYLVANIA DURING THE FIRST THREE MONTHS OF 1917.

The Bureau of Mediation and Arbitration aided in the settlement of forty-seven labor disputes involving 14,644 employes in twelve different counties of Pennsylvania during January, February and March, 1917. During that period there were 122 strikes, involving

33,218 employes, reported to the Bureau from various sections in Pennsylvania.

With the limited number of mediators and other employes of the Department available for assignment to mediation duties, the Bureau was able to respond in eighty-three of the disputes. These eighty-three disputes involved 23,025 employes. Of those strikes, forty-seven were adjusted through the aid of mediators of the Department and as a result 14,644 employes returned to their work. On April 1, thirty-six of the eighty-three strikes remained unsettled with 8,381 workers remaining away from their employment.

An estimate of the wages lost through the 122 labor disputes reported, from the time of their inception to April 1, or the date of settlement, amounted to $442,205. Reports on April 1, indicated that seventy-two of the total number of strikes reported, including those in which the mediators participated, had reached a settlement with the result that 21,026 employes were back at work. Fifty of the 122 strikes, involving 12,192 employes were still pending on April 1, 1917.

The following table indicates the classification of strikes by industries and by counties in which they occurred, numbers of employes involved in each case and results accomplished through activities of the Bureau of Mediation and Arbitration:

STATEMENT OF STRIKES IN PENNSYLVANIA REPORTED TO THE BUREAU OF MEDIATION AND ARBITRATION OF THE DEPARTMENT OF LABOR AND INDUSTRY, DURING THE MONTHS OF JANUARY, FEBRUARY AND MARCH, 1917.

County Classification.	Class No.	Industry.	Total strikes.	Total employes.	Settled.		Pending.		Department Participated		Settled.		Pending.		Estimated wages lost.
					Strikes.	Employes.	Strikes.	Employes.	Strikes.	Employes.	Strikes.	Employes.	Strikes.	Employes.	
	0	Miscellaneous,	2	325	.....	.....	2	325	.....	.....	.....	.....	.....	.....	.....
	1	Building trades,	2	31	.....	.....	2	31	.....	.....	.....	.....	.....	.....	.....
	2	Oil manufacturing,	1	6	1	6	.....	.....	.....	.....	.....	.....	.....	.....	30
	3	Glass,	1	126	1	126	.....	.....	.....	.....	.....	.....	.....	.....	995
	4	Garments,	9	729	8	346	1	383	9	729	8	346	1	383	21,132
	5	Sugar,	3	1,993	.....	.....	3	1,993	3	1,993	.....	.....	3	1,993	.....
	7	Brewery and Filteration,	3	515	2	415	1	100	1	55	1	55	.....	.....	18,110
	9	Paper manufacturing,	1	260	1	260	.....	.....	1	260	1	260	.....	.....	550
	10	Textile,	12	1,439	9	1,289	3	150	4	184	1	34	3	150	44,842
	12	Metal,	28	2,220	14	1,785	14	435	21	913	10	733	11	180	49,657
	13	Coal mining,	46	21,837	30	14,377	16	7,460	34	15,422	23	10,962	11	4,460	235,260
	14	Public service,	8	3,201	3	2,254	5	947	7	3,101	3	2,254	4	847	70,004
	15	Tobacco,	2	158	.....	.....	2	158	2	158	.....	.....	2	158	.....
	17	Mercantile,	2	260	1	50	1	210	1	210	.....	.....	1	210	.....
	21	Hotels,	2	118	2	118	.....	.....	.....	.....	.....	.....	.....	.....	1,625
			122	33,218	72	21,026	50	12,192	83	23,025	47	14,644	36	8,381	442,205
Allegheny,	0	Garbage plant,	1	250	.....	.....	1	250	.....	.....	.....	.....	.....	.....	.....
Allegheny,	12	Metal manufacturing,	1	55	.....	.....	1	55	.....	.....	.....	.....	.....	.....	.....
Allegheny,	14	Public service,	1	100	.....	.....	1	100	.....	.....	.....	.....	.....	.....	.....
Allegheny,	13	Coal mining,	1	65	.....	.....	1	65	1	65	.....	.....	1	65	.....
Allegheny,	17	Mercantile,	1	210	.....	.....	1	210	1	210	.....	.....	1	210	.....
Armstrong,	13	Coal mining,	3	4,850	2	1,750	1	3,100	3	4,850	2	1,750	1	3,100	.....
Beaver,	12	Metal manufacturing,	4	449	3	349	1	100	3	349	3	349	.....	.....	30,141
Berks,	15	Cigar manufacturing,	1	108	.....	.....	1	108	1	108	.....	.....	1	108	.....
Bucks,	12	Metal manufacturing,	1	42	1	42	.....	.....	.....	.....	.....	.....	.....	.....	400
Cambria,	13	Coal mining,	17	4,845	11	4,245	6	600	17	4,845	11	4,245	6	600	182,592
Cambria,	14	Telephone,	1	4	1	4	.....	.....	1	4	1	4	.....	.....	4
Carbon,	1	Building trades,	1	6	.....	.....	1	6	.....	.....	.....	.....	.....	.....	.....

STATEMENT OF STRIKES IN PENNSYLVANIA REPORTED TO THE BUREAU OF MEDIATION AND ARBITRATION OF THE DEPARTMENT OF LABOR AND INDUSTRY, DURING THE MONTHS OF JANUARY, FEBRUARY AND MARCH, 1917—Continued.

	Class No.	Industry.	Total strikes.	Total employes.	Settled.		Pending.		Department Participated		Settled.		Pending.		Estimated wages lost.
					Strikes.	Employes.	Strikes.	Employes.	Strikes.	Employes.	Strikes.	Employes.	Strikes.	Employes.	
Carbon,	13	Coal mining,	2	200	.....	.....	2	200	.....	.....	.....	.....	.....	.....	.....
Clearfield,	13	Coal mining,	8	1,862	6	1,567	2	295	8	1,862	6	1,567	2	295	6,100
Clearfield,	14	Railroad shops,	1	200	.....	.....	1	200	1	200	.....	.....	1	200	.....
Clarion,	13	Coal mining,	1	2,500	1	2,500	.....	.....	1	2,500	1	2,500	.....	.....	.....
Clinton,	13	Coal mining,	1	300	1	300	.....	.....	1	300	1	300	.....	.....	.....
Clinton,	14	Railroad shops,	1	300	.....	.....	1	300	1	300	.....	.....	1	300	.....
Delaware,	2	Oil manufacturing,	1	6	1	6	.....	.....	.....	.....	.....	.....	.....	.....	30
Delaware,	12	Metal manufacturing,	1	6	.....	.....	1	6	1	6	.....	.....	1	6	.....
Elk,	13	Coal mining,	2	600	2	600	.....	.....	2	600	2	600	.....	.....	.....
Fayette,	13	Coal mining,	1	108	1	108	.....	.....	.....	.....	.....	.....	.....	.....	668
Lackawanna,	7	Brewery,	1	360	1	360	.....	.....	.....	.....	.....	.....	.....	.....	18,000
Lackawanna,	13	Coal mining,	1	900	1	900	.....	.....	.....	.....	.....	.....	.....	.....	5,400
Lackawanna,	14	Railroad,	1	2,000	1	2,000	.....	.....	1	2,000	1	2,000	.....	.....	64,000
Lancaster,	12	Metal manufacturing,	1	70	1	70	.....	.....	1	70	1	70	.....	.....	720
Lebanon,	12	Metal manufacturing,	4	200	4	200	.....	.....	4	200	4	200	.....	.....	7,000
Lehigh,	10	Textile,	2	85	1	35	1	50	1	50	.....	.....	1	50	330
Luzerne,	0	Barbers,	1	75	.....	.....	1	75	.....	.....	.....	.....	.....	.....	.....
Luzerne,	1	Building trades,	1	25	.....	.....	1	25	.....	.....	.....	.....	.....	.....	.....
Luzerne,	7	Brewery,	1	100	.....	.....	1	100	.....	.....	.....	.....	.....	.....	.....
Luzerne,	10	Textile,	2	250	1	200	1	50	1	50	.....	.....	1	50	185
Luzerne,	13	Coal mining,	3	1,325	2	325	1	1,000	.....	.....	.....	.....	.....	.....	3,500
Luzerne,	14	Public service,	1	200	.....	.....	1	200	1	200	.....	.....	1	200	.....
Lycoming,	14	Public service,	1	147	.....	.....	1	147	1	147	.....	.....	1	147	.....
Moutgomery,	12	Metal manufacturing,	3	362	1	350	2	12	2	12	.....	.....	2	12	2,200
Montgomery,	9	Paper manufacturing,	1	260	1	260	.....	.....	1	260	1	260	.....	.....	550
Montour,	12	Metal manufacturing,	1	100	.....	.....	1	100	.....	.....	.....	.....	.....	.....	.....
Northumberland,	13	Coal mining,	3	2,600	1	800	2	1,800	.....	.....	.....	.....	.....	.....	4,800
Philadelphia,	10	Textile,	6	771	6	771	.....	.....	1	34	1	34	.....	.....	44,327
Philadelphia,	17	Mercantile,	1	50	1	50	.....	.....	.....	.....	.....	.....	.....	.....	.....
Philadelphia,	7	Filter plant,	1	55	1	55	.....	.....	1	55	1	55	.....	.....	110
Philadelphia,	21	Hotels,	2	118	2	118	.....	.....	.....	.....	.....	.....	.....	.....	1,625
Philadelphia,	12	Metal manufacturing,	10	276	2	114	8	162	10	276	2	114	8	162	446
Philadelphia,	5	Sugar,	3	1,993	.....	.....	3	1,993	3	1,993	.....	.....	3	1,993	.....

Philadelphia,	4	Garments,	9	729	8	346	1	383	9	729	0	346	1	383	21,132
Philadelphia,	15	Tobacco,	1	50	.....	.....	1	50	1	50	.....	.....	1	50	.....
Philadelphia,	14	Public service,	1	250	1	250	.....	.....	1	250	1	250	.....	.....	6,000
Tioga,	13	Coal mining,	1	400	.....	.....	1	400	1	400	.....	.....	1	400	.....
Washington,	3	Glass,	1	126	1	126	.....	.....	.....	.....	.....	.....	.....	.....	995
Westmoreland,	12	Metal manufacturing,	1	560	1	560	.....	.....	.....	.....	.....	.....	.....	.....	8,500
York,	12	Metal manufacturing,	1	100	1	100	.....	.....	.....	.....	.....	.....	.....	.....	250
Schuylkill,	13	Coal mining,	2	1,282	2	1,282	.....	.....	.....	.....	.....	.....	.....	.....	32,200
Delaware,	10	Textile,	1	50	.....	.....	1	50	1	50	.....	.....	1	50	.....
Dauphin,	10	Textile,	1	283	1	283	.....	.....	.....	.....	.....	.....	.....	.....	.....
			122	33,218	72	21,026	50	12,192	83	23,025	47	14,644	36	8,381	442,205

BUREAU OF EMPLOYMENT PLACES 2,152 UNEMPLOYED WORKERS IN POSITIONS DURING MONTH OF MARCH.

The Bureau of Employment, through its five offices in Harrisburg, Philadelphia, Pittsburgh, Johnstown and Altoona placed 2,152 workers in positions during the month of March from a total of 2,987 persons who applied for employment.

Employers requested 3,574 employes during the month and in answer to their requests 2,484 unemployed workers were referred to positions for which they were considered suitable.

In comparing the work of the Bureau for the month of March with the activities in February a distinct increase in the number of placements is noted. The number of requests, from employers, for workers increased from 2,560 in February to 3,574 in March. The number of applications for positions in February was 2,555 and in March 2,987. During February 1,789 persons received employment while in March the number increased to 2,152. The records of the separate offices and the totals for the month of March are indicated in the following tables:

HARRISBURG.

Total number of persons asked for by employers	634
Number of applications for positions	366
Number of persons referred to positions	360
Number of persons receiving positions	323

PHILADELPHIA.

Total number of persons asked for by employers	1228
Number of applications for positions	1521
Number of persons referred to positions	1209
Number of persons receiving positions	1002

JOHNSTOWN.

Total number of persons asked for by employers	155
Number of applications for positions	107
Number of persons referred to positions	92
Number of persons receiving positions	75

PITTSBURGH.

Total number of persons asked for by employers	1428
Number of applications for positions	867
Number of persons referred to positions	732
Number of persons receiving positions	670

ALTOONA.

Total number of persons asked for by employers	129
Number of applications for positions	126
Number of persons referred to positions	91
Number of persons receiving positions	82

TOTALS.

Total number of persons asked for by employers	3574
Total number of applications for positions	2987
Total number of persons referred to positions	2484
Total number of persons receiving positions	2152

The percentage of placements made in the Harrisburg, Philadelphia and Pittsburgh offices, according to classes of occupations, are indicated in the following tables:

PLACEMENT WORK OF THE HARRISBURG OFFICE FOR THE MONTH OF MARCH, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Class. *Per Cent. of Total.*

Class.	Per cent. of Total.		
	Openings.	Applications for positions.	Placements.
Labor,	44.9%	37.3%	35.6%
Clerical and commercial,	4.3%	7.7%	7. %
Semi-skilled,	16.8%	11.6%	13.5%
Skilled,	32.7%	39.7%	42.7%
Technical and professional,	1. %	3.4%	.9%

WOMEN'S AND GIRLS' DEPARTMENT.

Class. *Per Cent. of Total.*

Class.	Per cent. of Total.		
	Openings.	Applications for positions.	Placements.
Domestic and personal,	59.6%	61.5%	50. %
Day's work,	26.3%	20. %	42.7%
Commercial and clerical,	6.4%	15.4%	6.2%
Factory work,	7.5%	3. %	1.1%

PLACEMENT WORK OF THE PHILADELPHIA OFFICE FOR THE MONTH OF MARCH, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Class. *Per Cent. of Total.*

Class.	Per cent. of Total.		
	Openings.	Applications for positions.	Placements.
Labor,	11.8%	13. %	12.6%
Clerical and commercial,	16.7%	18.2%	16.8%
Semi-skilled,	24. %	23.1%	22.9%
Skilled,	47. %	44.7%	47.3%
Technical and professional,	.5%	1. %	.4%

WOMEN'S AND GIRLS' DEPARTMENT.

Class. *Per Cent. of Total.*

Class.	Per cent. of Total.		
	Openings.	Applications for positions.	Placements.
Domestic and personal,	64.1%	44.3%	50. %
Professional,	1. %	*	*
Commercial and clerical,	22.1%	30.4%	25.7%
Factory work,	12.8%	25.3%	24.3%

*Less than .1%.

PLACEMENT WORK OF THE PITTSBURGH OFFICE FOR THE MONTH OF MARCH, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

DEPARTMENT FOR MEN AND WOMEN.

Class. *Per Cent. of Total.*

Class.	Per cent. of Total.		
	Openings.	Applications for positions.	Placements.
Labor,	63%	26%	25%
Clerical and commercial,	4%	12%	5%
Semi-skilled,	14%	24%	39%
Skilled,	19%	37%	31%
Technical and professional,	*	1%	*

*Less than .1%.

The record of the Bureau of Employment, from the time of its organization, in October 1, 1915 to April 1, 1917 is indicated in the following tables:

WORK OF THE BUREAU OF EMPLOYMENT.
October 1st, 1915—April 1st, 1917.

	Harrisburg.	Philadelphia.	Pittsburgh.	Johnstown.	Altoona.	Total.
Number asked for by employers, ...	10,894	15,428	17,445	2,861	2,343	48,967
Applicants,	5,197	23,409	11,906	1,564	894	42,970
Referred,	4,258	13,578	7,895	1,133	663	27,527
Placements,	3,645	10,810	7,381	838	607	23,281

MEN'S DEPARTMENT.

CLASSES OF WORK HAVING THE HIGHEST PERCENTAGES OF OPENINGS.

Laborers,	35.7% of the total
Machine workers,	6.6% of the total
Clerks, stenographers and typists,	3.8% of the total.
Carpenters,	1.9% of the total.
Salesmen and solicitors,	1.5% of the total.
Farm hands and managers,	1.4% of the total.
Moulders,	1.3% of the total.

Waiters, butlers and valets,	1.3% of the total.
Plumbers,	1.2% of the total.
Bookkeepers and accountants,	.4% of the total.
Woodworkers,	.4% of the total.
Painters,	.3% of the total.
Brieklayers,	.2% of the total.
Tailors, garment makers,	.2% of the total.
Boiler makers,	.1% of the total.
Cabinet makers,	.1% of the total.

CLASSES OF WORK HAVING THE HIGHEST PERCENTAGES OF APPLICANTS.

Laborers,	14.1% of the total.
Clerks, stenographers and typists,	11.5% of the total.
Maehine workers,	8.5% of the total.
Salesmen and solieitors,	3.4% of the total.
Bookkeepers and accountants,	2.2% of the total.
Farm hands and managers,	2.2% of the total.
Carpenters,	1.6% of the total.
Waiters, butlers and valets,	1.6% of the total.
Plumbers, steam and pipe fitters,	1. % of the total.
Painters,	.9% of the total.
Boiler makers,	.5% of the total.
Moulders,	.2% of the total.
Woodworkers,	.2% of the total.
Cabinet makers,	.1% of the total.
Bricklayers,	.1% of the total.

WOMEN'S DEPARTMENT.

CLASSES OF WORK HAVING THE HIGHEST PERCENTAGES OF OPENINGS.

Domestie and Personal Serviee,	27.1% of the total.
Clerks,	11.7% of the total.
Waitresses (Public Places),	6.2% of the total.

CLASSES OF WORK HAVING THE HIGHEST PERCENTAGES OF APPLICANTS.

Domestie and Personal Serviee,	24.1% of the total.	
Clerks,	22.1% of the total.	
Waitresses, (Publie Places),	6.3% of the total.	
Amount appropriated by State for two years,		$30,000 00
Number of agents licensed to date at $50 each per year,	528	
License fees colleeted and turned into State Treasury,		26,400 00
Number of complaints against agents investigated,	423	
Amount refunded by agents to applieants for work,		1,020 64
Amount in hands of agents belonging to the applieants until sueh time as applicants receives serviee from agents,		9,818 63
Number of positions filled by agents doing business for profit,	164,343	
Amount paid by applieants to agents for positions,		493,029.00

THE BUREAU OF EMPLOYMENT AND ITS CO-OPERATING OFFICES.

The Bureau of Employment of the Department of Labor and Industry has been enlarging its uselessness by establishing local branch offices in co-operation with Chambers of Commerce in various municipalities. This action, at almost no expense to the State, enables the Bureau to carry its work to many sections of Pennsylvania, which could not otherwise have been served.

The Employment Bureau now has its main office in Harrisburg and branch offices, under its direct supervision, at Philadelphia, Pittsburgh, Altoona and Johnstown. The local agencies, which have been established within the past few weeks through the co-operation of Chambers of Commerce, are at Dubois, Lancaster, Coatesville, Phillipsburg, Hazleton and Beaver Falls.

The operations of the co-operating Chambers of Commerce agencies in the six municipalities named provided a basis from which it was determined how similar co-operating agencies could be established in the future to the best possible advantage and what standardizing rules of procedure, to govern the establishments of such agencies, should be adopted in order that they might be of maximum usefulness to both employers and employes.

At a meeting at Harrisburg, March 14, called by Commissioner Jackson, such rules of procedure were formulated. The meeting was attended by the following representatives of employer and employe: James Maurer, President of the Pennsylvania Federation of Labor; A. P. Bower, Secretary of the State Cigar Makers' Union; John A. Philips, Secretary, Central Labor Union of Philadelphia; Elmer Spahr, President, Pennsylvania State Conference Bricklayers', Masons' and Plasterers' International Union; William Young, Member of Industrial Board, representing labor; A. B. Farquhar of the Farquhar Company, Ltd., York; A. J. Logan, of the Logan Company, Pittsburgh; R. H. Irons of the Central Iron and Steel Company, Harrisburg; D. E. Tracy, President of the Harrisburg Chamber of Commerce and also president of the Pipe and Pipe Bending Company of Harrisburg, representing employers. The following rules were decided upon to govern the future organization of branch offices of the Bureau:

RULES.

1.—The representative of the Bureau of Employment of the Department of Labor and Industry shall ask the Chamber of Commerce or other organization largely representing employers, and the central labor union, or other principal labor organiza-

tions of the town each to appoint a committee of three to promote a temporary organization, with a representative of the State Department of Labor and Industry. Where such distinct organizations are not available, the committee shall be selected by such group of persons as most nearly represent the employers and employes.

2.—The two committees with the State representative shall select a manager of the agency who is mutually satisfactory, the understanding being that a majority of each of the three employes, employers, and the State, shall be satisfied with the man who is selected.

3. The committee shall then proceed with the preliminary of the organization of the agency or exchange and in all decisions or policies, a vote shall prevail when a majority of each of the three interests has concurred.

4.—The agency shall be thereafter directed by a committee selected in accord with the law, but the nominations made by the employment body and the employers entering into an original negotiation.

5.—All business arrangements with reference to the expense and other matters regarding the maintenance of the bureau shall be determined by this governing committee.

6.—It is agreed that in all these organizations, the State representative shall, as a preliminary, explain that these agencies are to be established so that they shall affect in no way the question of strikes, closed or open shops, or other problems with reference to employment.

The problem of employment and unemployment is one that has received the attention of many of the brightest minds in the United States and is one that must be discussed by both employer and employe together in order that a proper conclusion may be reached. A body of employers or of employes might sit in their private council and discuss separately this problem and arrive at a plan which is unworkable; whereas, if they were to sit together and discuss this question, the result would no doubt be a practical remedy.

It is hoped that as time passes, Pennsylvania may have a branch office of the Employment Bureau in every industrial center of the State and each with an advisory council, that can be called together into one great State convention, with the Superintendents of he bureaus. to discuss the employment question in all its phases and make recommendations to be published for the benefit of all employers and employes throughout the Commonwealth.

SCHOOL CHILDREN SAFEGUARDED FROM DANGERS OF FIRE AND PANIC BY CO-OPERATION OF SCHOOL AUTHORITIES WITH ENGINEERS OF DIVISION OF BUILDINGS OF BUREAU OF INSPECTION OF DEPARTMENT OF LABOR AND INDUSTRY.

A school building in Pennsylvania, modern in almost every respect, was found, by inspectors of the Department of Labor and Industry, to be equipped with one fire escape at the rear of the building. The

inspectors reported that this emergency means of egress was badly rusted and that the teachers in the schools were unwilling to allow the pupils to use it, even for fire drills, for fear that the structure would not support their weight. The matter was referred to the Division of Buildings of the Bureau of Inspection of this Department and the engineers of this Division began a solution of the problem.

Subsequent activities, by this Department, with the complete cooperation of the school authorities, resulted in the changes shown by the two illustrations on the frontispiece of this Bulletin. The old structure shown in the illustration on the left of the page was removed and in its place two fire escapes, one on each side of the building were erected. The new fire escapes, of the type shown in the illustration at the right of the page, provide as modern a type of safety egress as could be desired. They are practically outdoor stairways and the likelihood of congestion from panic conditions is virtually eliminated. The wire mesh screen, used as a supplementary safeguard with the railings, removes the hazard of falls from the structure by younger children.

As is obvious from the photographs, the building was three stories at the rear. There were four rooms on each floor of the building and before the two modern fire escapes were erected at the sides of the schoolhouse, the pupils in the two front rooms of the third floor would have had to pass an interior stairway and through the two rear rooms to reach the original fire escape. This fire escape afforded two exits at the third story with the descending flights converging at the one landing with only one flight from this one landing to the ground. This terminal flight of steps was of the same width as the two flights of steps that led to the second story landing. This condition would undoubtedly have caused congestion at this landing, which was also a means of egress for pupils from the second floor rooms. In other words, pupils descending from the two upper flights of the fire escape would have reached the second floor landing at the same time that pupils would have been emerging from the floor on the same level with the landing. One narrow stairway would then have provided the only means of escape for three groups of pupils.

After most careful study of this building, it was decided by engineers of this Department that each room should have two independent means of egress. The photograph showing the new fire escape, with the pupils upon it, indicates how adequate a means of escape is now provided. Another similar structure is on the opposite side of the building. In order to eliminate any possibility of congestion, the terminal stairways of these new fire escapes were made four feet in width, while the stairways of the two upper flights are each thirty

inches in width. In addition to accomplishing these results, co-operation by the school authorities with the Department of Labor and Industry accomplished the substitution of electric lights for coal oil lamps in the structure; the basement was thoroughly lined with concrete and a new heating plant was installed. The windows and doors directly beneath the new fire escapes were made fire proof so that tongues of flame might not envelop the stairways and prevent the egress of pupils. Panic bolts were placed on the doors so that they would readily open outward in case of emergency. The renovation of this building toward the end that the safety of the pupils might be increased is typical of work being done by the Division of Buildings of the Department of Labor and Industry in structures of public assemblage in all sections of the State.

REGULATIONS FOR THE CANNING INDUSTRY.

Of all the seasonal employments inviting the attention of the Department of Labor and Industry, canning is one of the most important

After the organization of the Department of Labor and Industry one of the first duties which engaged the attention of the Industrial Board was the adoption of rules and regulations for the standardization of processes and devices intended to promote the health and safety of the men and women coming under its jurisdiction. The canning industry in Pennsylvania employs a large number of workers and it is an industry which can not only be a cause of great discomfort to the people working in it but it can also actually place in jeopardy many lives if operated in an insanitary manner. One of the first duties of the Industrial Board was therefore to inquire into this industry, observe how the work was being conducted, note points in which it could be improved, and issue, as a result of their investigations, Safety Standards Number Eleven on Canneries.

These Standards cover the entire subject in so far as the comfort, health and safety of the employes is concerned. They provide for the proper location of the buildings, for their suitable construction, and for their safe operation. Such points as the disposal of refuse, the drainage of the buildings, together with their ventilation, their lighting, and the finish of the walls are covered in one section.

Another section deals with the protection and safety of the workers, stating how the machinery and dangerous places shall be guarded, and takes up the subject of escape from fire by providing for adequate and efficient means of egress from all such factories above the first story.

The matter of toilets and of wash and dressing rooms is given adequate and detailed attention; sanitary regulations covering the use of wearing apparel are established; provision is made for the exclusion from work of persons suffering from communicable disease; and directions concerning supplies used in the actual performance of the work are given.

The publication of these rules has markedly raised the standard of conditions in Pennsylvania canneries, and this in turn has given to the product put out a reputation much to be desired. This subject is called to the attention of the public merely to show the advantages of these regulations and to inform anyone about to enter this business, and who may be ignorant of the requirements of the Department, of the necessity and the advantage of adhering closely to the Standards in the construction and operation of their plants.

Attention to these regulations procures for the employes concerned, healthful, comfortable and safe work places. It demonstrates to each person so employed that while production is not to be neglected, a factor of even greater importance is protection. Such an attitude on the part of the employer can not help but generate a feeling of loyalty and of co-operation on the part of the workers. With these two attributes firmly established the success of any undertaking is thoroughly secured.

Failure to comply with the rules and regulations of the Department naturally invites prosecution with its accompanying penalties. The wise canner is the one who studies the requirements of the law, follows it before compelled to do so by legal action, and thus indicates to his employes that he is anxious to promote their health and their comfort for humanitarian reasons rather than because the Commonwealth requires it.

Employers, employes or any other persons interested in this matter may obtain a copy of the Standards on this subject by applying to the Industrial Board of the Department of Labor and Industry, Masonic Temple, Harrisburg, Pa.

SAVING THE WORKER'S EYES.

Goggles have proved to be the best device for preventing eye injuries—not only for those workers engaged in chipping, grinding and babbitting, but also in whitewashing, plastering, or any work where there is danger of particles of dust or other substances getting into the eyes.

Excellent results have been obtained by a large number of employers who have provided goggles for their employes, and one need

only see the number of broken lenses in some of the large steel plants to realize the number of serious injuries that have been prevented by use of goggles.

During the last two or three years, the question of goggles has been investigated very thoroughly and several types of excellent design and construction have been developed. Special attention has been given to making goggles which are comfortable for the workmen.

This has been accomplished by providing flexible goggles which rest partially on the cheeks, thus distributing the pressure, by the use of adjustable nose bridges and by making bridges of different widths. As the goggles are made entirely of metal and glass, they are sanitary and can be sterilized, after being turned in by the workman and before they are given out again.

Recently, an inspector of the Department of Labor and Industry, while making an investigation of an accident, was talking with the safety engineer of a large steel company, when an elderly workman, with only one eye, came up holding in his hand a pair of goggles in which one of the lenses had been badly shattered. He said that he wanted the lens replaced or a new pair of goggles for one of the chippers in the boiler house, who had been using the goggles when a sliver flew and broke the lens. He added that the chipper was not injured in the least, and, as he turned to walk away, said, with a sigh, "I wish they had used goggles twenty years ago, I'd have two eyes to-day."

Goggles should be provided for all employes engaged in chipping and in grinding operations or in handling molten metal of any kind, and those in authority should see that goggles are worn by workmen whenever needed.

The Industrial Board of the Department of Labor and Industry is engaged at the present time in formulating a ruling, making it compulsory for employers to supply goggles to workers in processes that endanger the eyes and also making it compulsory for workers to wear goggles supplied to them.

An interesting case concerning a worker in the State of Indiana came recently before the Industrial Board of that State. The conditions surrounding this case are set forth in a recent bulletin of the National Safety Council as follows;

JOHN MILLER FAILED TO WEAR HIS GOGGLES. HE LOST AN EYE. HIS CLAIM FOR DAMAGES WAS DISMISSED BY THE INDUSTRIAL BOARD OF INDIANA AND HE WAS ASSESSED COSTS OF ACTION.

John Miller was a laborer in the employ of an Indiana concern and received a weekly wage of $14.11. He suffered a personal injury arising out of and in the course of his employment, resulting in the permanent and irrevocable reduction of the sight of his right eye to below one-tenth of normal vision. He had been in-

structed to wear goggles but failed to do so. After the injury his employer provided him with an attending physician and proper surgical services.

A controvery arose as to the payment of compensation for the injury sustained by Miller and the matter was referred for settlement to the Industrial Board of Indiana. The testimony showed that the employer furuished goggles to his workmen; that the foreman made consistent efforts to enforce the use of goggles; that he had reprimeuded workmen for failure to wear them while at work; that at least four workmen had been discharged for failure to wear goggles; and Miller had knowledge of the shop rules requiring the use of goggles and of the actions of the foreman in attempting to enforce same.

The Industrial Board ruled: "When the employer provided goggles and consistently insisted upon their use it had done all that the law required of it in this respect. Under such circumstances, the failure of the employe to use the goggles constituted a willful refusal to use a safety device which defeats an award of compensation under Sectiou 8 of the Indiana Workmen's Compensation Act. Costs to be paid by plaintiff, $6.75."

SUGGESTIONS FOR THE CARE AND OPERATION OF STEAM BOILERS.

If the boiler has been emptied, cold water should not be fed into it until the temperature of the plates has been reduced almost to the temperature of the feed water. Manhole and handhole gaskets should be water tight and the boiler vented to allow the air to escape while being filled with water. Be certain that the right water level has been reached before starting the fire and bring the pressure up slowly.

The first thing in preparing to generate steam is to ascertain whether the valves and connections between the boiler and water column are open, by blowing down the water column and noting the action of the water as it returns into the glass, then try the gauge cocks to be sure that they are in proper working order. This should be done at least four times a day. Have the light so placed and the gauge glass clean in order that the true water level can be seen from the floor. Do not depend entirely on automatic water feeders as they occasionally get out of order. Put tees or crosses instead of elbows in the connections from the boiler to water columns in order to facilitate the cleaning of the pipes when boilers are out of service for washing or inspection.

Open the clean out doors before starting and at shutting down, and look for leaks at tube ends, riveted seams and blow off pipe in combustion chamber. Examine the fire sheets for cracks, bags, bulges and blisters.

In case of low water, cover the fire with wet ashes or fuel, close ash pit doors and open furnace doors. Do not turn on the feed

water. Do not touch the safety valves. Let the steam outlets alone, and do nothing to the boiler until it has cooled down; then examine it carefully to ascertain what damage has been done.

In case of foaming, close the stop valve, check the draft and cover the fire; and watch the action of the water in the glass. If it shows a steady level, the water should be blown down, a gauge at a time, at frequent intervals, replacing that blown out with fresh water. If this does not stop the foaming, shut down the boiler and make an internal inspection, taking whatever steps are necessary to prevent a recurrence.

When a boiler is to be connected with others in service, do not open the stop valve until the pressure in the boiler, being connected, is exactly the same as the pressure in the steam main. In order to be sure that you are right, the stream gauge should be tested by a correct gauge and any errors corrected. Drain the main of all accumulation of water, slowly open the stop valve until you hear the steam and then, if there is no vibration or unusual disturbance in the pipes, slowly open until the valve is fully open. Be sure that there is no water in the pipes as it sometimes causes so violent a water hammer as to burst the pipes or fittings and cause serious injuries or loss of life.

See that the safety valve always works freely either by raising the pressure to the blowing off point, or by lifting the valve off its seat at least once a day. This may be conveniently done by attaching a small cable to the safety valve lever and carrying the other end by means of small pulleys to a point where it can be reached from the floor.

This should be done at least once a day, preferably in the morning before starting. The blow off cock should be opened and closed slowly to avoid any sudden strain on the pipe and fittings. The blow off pipe should be extra heavy and where fittings are used between the boiler and the blow off valve, they should be of steel and protected from the heat by a V shaped brick pier or asbestos covering.

Scale should not be permitted to accumulate in the boiler as it is very liable to cause a bag or explosion. When the water is high in scale forming elements, the feed water should be chemically treated before entering the boiler.

When the inspector is coming, have the grates clean, soot removed from the combustion chamber, shell and tubes, steam gauge diconnected and ready to be tested, plugs removed from water connections and everything prepared in order that the condition of the boiler can be properly ascertained. The engineer should advise the inspector of any peculiar behavior of the boiler while in operation.

VACATIONS.

Of all the changes that have come upon us more or less gradually during the last hundred years, the custom of almost universal vacations is by no means the least. Vacations are taken at all times of the year, but summer continues to be the most popular time.

Nothing is more deadening than to work in endless routine, be it mental work or muscular work. Breadth of character can come only by wide experience. No matter how interesting a piece of work may be, the worker is not getting the most out of it if he forgets that there are other people in the world with work just as interesting and as important. If a perfectly normal arm should be splinted and carried in a sling for a few months, it would at the end of that time be found to be paler, softer, smaller, and would possess less power than the other arm which had been in constant use. What of the mind of a man if that man year in and year out engages in manual labor exercising his muscles but not his brain; or of the mental worker constantly using his brain, but his muscles to the smallest possible degree? Neither process could be considered the best method for developing a well-rounded individual.

Unfortunately for most people, work is not so happily ordered that they can all give to the mind and to the body the proper exercise at all times. The next best thing to do therefore is to use the time spent away from work in ways that will call forth active exercise of the functions of the body and mind not used in daily pursuits. This is especially desirable and applicable to the regular annual vacation time.

The man working in the country, performing hard muscular labor, and rising early in the morning, will find a vacation spent in the city, rising at any hour that suits his fancy, visiting museums, libraries, and points of interest not available to him while at work, will return from his vacation refreshed in body and with a mind stored with material which will give him food for thought in the many hours of work ahead of him. On the other hand the clerk, the bookkeeper, or any person confined in doors in a city, with muscles not actively exercised, or at least only a few of them in constant use, will derive his greatest benefit by going to the country or the sea shore and adopting such pleasures as will bring into action all his muscles.

It is therefore an ideal plan, in order to effect the greatest change possible in one's mode of life, for a person living normally in the lowlands to go to the mountains, or for the city worker to take hi

rest period in the country. Far from being able to choose the ideal vacation because it is the best, most vacations are planned with the thought of expediency and expense as the chief factors to be considered. It may be that one or both of these considerations would compel one to forego the pleasure of a vacation away from home. Should this be the case, a little thought will make such a vacation also profitable.

It is astonishing how few people are acquainted with the places of historic interest in their own localities. Places admirably described in guide books and eagerly sought out by tourists often remain absolutely unknown to persons passing their lives within a mile or two of these particular points. Almost every county in Pennsylvania has within its confines an historical society. The secretaries of these societies can always be counted upon to provide information concerning localities of historic importance in the counties they represent. If no guidebooks are available, the information furnished by the secretaries of these societies is very valuable.

Portions of the State well covered by trolley systems offer splendid opportunities for inexpensive outings for an afternoon or for several days. Information on the routes and the places of interest along the lines of their traffic is always readily given by the traction companies.

The cheapest and really the most beneficial way to take a vacation is to take walking trips. Such trips may be planned for a day at a time or they may extend over a week or a month depending entirely upon the amount of time available and the inclination of the vacationist. Camping outfits containing the necessities of cooking and enough shelter for passing the night outdoors can readily be improvised from the ordinary furnishings of a household or obtained from dealers in sporting goods at very small cost. The benefit and pleasure derived from sleeping outdoors must be experienced before it can be appreciated; and once experienced, it is sure to be repeated.

Whatever form of vacation is chosen, it should always be planned to include at least one companion. At times large parties are more desirable, but a vacation taken alone is robbed of a great deal of pleasure and loses that mental stimulus which comes from the discussion of similar experiences.

Under no circumstances should a vacation call forth so much effort that the individual returns to his work more fatigued than when he left it, or, as so often happens, almost exhausted. With such results the purpose of the vacation is defeated, the employe is not benefited and the employer is actually harmed. Some years ago the owner of a small foundry in a rural section of this State instituted the custom of giving to each one of his employes a vacation of two weeks with pay. It was an innovation in that section for men em-

ployed in that class of work. They promptly took advantage of it by obtaining work from the farmers nearby in the harvest fields, thus adding to their income, but entirely defeating the purpose for which the vacation was given, as the long hours in the hot sun at work at which they were unaccustomed, brought them back to the foundry more worn out than they had left it. An explanation of the real purpose of a vacation showed these men the folly of their procedure, and since that time they have spent the time allotted to them in rational, beneficial relaxation.

With all this advice to the workers, it must be remembered that the employer has his duty to perform. In many shops and offices, vacation time means to the employes either piled up work for them to do upon their return or double work for those left behind. Either condition is so undesirable that the workers are willing to forego their so-called rest rather than take it at the expense of their fellow workers or at their own expense in overwork before and after their vacation.

Vacation time should be the time for taking on additional help. If the nature of a business is such that it cannot be discontinued and if a vacation is really to be what its name implies, freedom from occupation, it should include freedom from overwork both before and after the freedom from occupation. To this end a great many firms employ, during the summer months, substitute workers who take up in succession the work of the various individuals who are absent. It is an admirable plan and one worthy of imitation in many more industries.

A far better scheme, however, if practicable, is the procedure known as the Efficiency Vacation, a splendid account of which was published in the Bulletin of this Department for April, 1915. By this method the plant is shut down during the vacation time and no person is inconvenienced by the absence of another.

How often we hear the expression "I have not taken a vacation for five years;" or the time way be three, or six, or ten years. When a man makes a remark like that the hearer is sure to ask himself the reason, whether it is because his work is so poorly done that he is ashamed to have anyone else take it up and discover his shortcomings, or whether it is because he deems himself of such supreme importance that the work can not proceed without him. The sooner every man learns that there is no work that he is doing that cannot be done by another, the better it will be for that man and for his work. If any business is to run smoothly, every worker in it should have an understudy, not necessarily a man who will step in at a moment's notice and carry on the work as efficiently as the man who

has been doing it for years, but one who at least has some grasp of the work involved and can fill the breach in an emergency.

The fact remains that every worker needs a vacation at some time for some period be it long or short. This applies to the employer with the same force that it does to the employe. Give recreation a place in the planning of a business and production will reap the benefit.

CONSERVATION OF AMERICA'S INDUSTRIAL ARMY.

The conservation of our American industrial army is to-day attracting considerable attention. Philanthropists, sociologists, scientists, the medical profession are all giving serious consideration to this complex problem. It is in a measure dependent upon legislation, pension systems, and insurance of all kinds, life, accident, and health. With the prodigious development of manufacturing, the introduction of new industries, and the evolution of new processes, there have been marked changes in the habits of life, and in the surroundings of industrial workers, so comprehensive in character as virtually to transform our whole social order.

Concomitant with these changes, there has been an appalling sacrifice of life and of health in our industries; the magnitude of which figured out in dollars and cents is almost beyond comprehension. Statistics on this score may serve to arouse the public mind somewhat from civic lethargy. "But," says Dr. T. F. Harrington, in a recent address before the Massachusetts Association of Boards of Health, "we should not forget that the problem is one of human life and happiness,—factors that can not be expressed in dollars and cents. Furthermore, the loss is a personal one, either individual or family. No compensation, no insurance, no pension, however generous, can ever recompense for the loss of the husband and father, for the days of illness and suffering, for the discouragement, worry and discontent resulting from causes that are preventable and avoidable. Let this threatened loss affect one of our own family and how readily we make every effort to avert the blow!"

Prevention is Most Potent Factor.

The mainspring of action in promoting industrial health should be prevention; every effort exerted in behalf of the conservation of human life and energy should be prophylactic in character. There is sufficient reliable evidence on record to establish the fact that a very large part of industrial invalidism is preventable. The lessened amount of poisoning in the lead industries where scientific

methods are employed, the removal of phosphorus poisoning from the match industry, the reduction in the number of accidents through the safeguarding of machinery, the decreased morbidity among workers in shops under sanitary control,—all these illustrate some of the possibilities resulting from a propaganda of prevention, and should suffice to incite all thoughtful people to adopt safe and sane measures for the promotion of health among industrial workers.

"The chief reason why preventive measures have not been adopted more generally in the industries," says Dr. Harrington, "is probably the almost total neglect of the problem in this country. Manufacturers looked to the medical profession for leadership in such a campaign. Physicians have not been prepared for such a responsibility. Practically all our medical teaching and practice during the past forty years,—a period of unprecedented growth and development of industrial organizations—have been based upon the germ theory of disease.

"Industrial diseases, on the other hand, are due to gases, fumes, vapors, chemical poisons, dusts of various kinds, over-heated workshops, stagnant, dry or overheated atmosphere, defective lighting, lack of toilet, drinking and washing facilities, job misfits, over speeding, low wages, fatigue and other causes,— social, economic, physical. They are not *per se* communicable nor dangerous to the public."

In the medical profession, there has been but scant knowledge of the actual physical requirements of industrial environment and of the health hazards occurring in the various industries.

The recent introduction of courses in industrial hygiene into the curricula of our leading medical colleges has met an obvious want and furnishes to the recent graduate an experience and equipment, that is valuable in industrial practice.

The young physician just entering industry thus equipped has a large field of opportunity open to him in promoting the health of industrial workers. His professional and social value, however, will depend largely upon his personality. If he desires success, he must be qualified to deal with social as well as medical questions; that is, he must be tactful and able to handle individuals rather than cases.

Campaign for Prevention.

The campaign in the interest of prevention assumed concrete form in the Commonwealth of Pennsylvania in 1913 by the formation of the State Department of Labor and Industry. To this Department was entrusted the enforcement of all the labor laws upon the statute books, including those for the promotion of health among industrial workers and for the prevention of accident and injury.

The Bureau of Inspection and the Division of Hygiene, by reason of their many inspections of industrial establishments each year are obtaining data of great value in establishing standards of occupation and risks, to promote industrial efficiency and economy of production.

For the accomplishment of beneficent results in the prevention of industrial diseases and accidents, it is necessary to have the hearty co-operation of all associated forces. Responsibility rests upon the employer, the employe and the State. Each has his own particular duty to perform in order to be mutually helpful in mitigating industrial dangers.

SAFETY IN THE EXPLOSIVES INDUSTRY.

In the recent enactment by the Industrial Board of a Safety Code for the operation of plants manufacturing or using explosives, an epoch making event occurred in the explosives industry in this country. Ever since explosives were first made in this country there have been no general rules, regulations, or laws administered by state or other governmental authority in which were embodied standard safe practices which were in common use by all manufacturers. On the other hand, however, it must not be thought that plants were operated without regard to the hazard always present where dangerous material must be manufactured. As a matter of fact, practically all explosives manufacturers have been keenly alert to eliminate dangerous conditions and unsafe practices, as the economic operation and the production of their plants were vitally concerned.

Explosions, if they happened, meant in addition to the possible loss of human life, serious interruption to production and the expenditure of immense sums of money to replace buildings, equipment, and to make necessary repairs. Besides, there was the difficulty of obtaining the requisite number of employes. If any certain class of employers can truly be said to be pioneers in the safety movement their designation surely can rightfully be claimed for the explosives manufacturers. Each individual concern, however, had used their own methods which were based, to a large extent, on their own experiences. They might have in use a certain practice which had been found advantageous from an economical operating standpoint but which was known by another company to be inexpedient owing to the fact that if something went wrong there was the possibility that a large number of employes would be killed or

injured. Manifestly, in the interest of humanity as a whole, if it could be possible to prevent snch a needless loss of life it was in the province of the Department of Labor and Industry to take up the work, as it is one of the duties of that Department to safeguard the health and lives of all employes.

Accordingly, at the direction of Commissioner John Price Jackson, the Division of Industrial Hygiene and Engineering prepared a tentative code for the operation of snch plants. This tentative draft was then snbmitted to all plants manufacturing explosives and they were asked to offer any criticisms, which they thonght necessary, at a pnblic hearing held by the Industrial Board in the City of Philadelphia.

In the meantime, Colonel Lewis T. Bryant, Commissioner of Labor of the State of New Jersey, was asked to co-operate so that the Code as finally adopted would be uniform for Pennsylvania and New Jersey, the two States in the eastern part of the country which contain a majority of the plants mannfactnring and using explosives. Colonel Bryant very gladly agreed to co-operate, as he, together with Commissioner Jackson, is a very firm believer in nniform legislation.

At the public hearing in Philadelphia, after listening to all objections and suggestions, a committee was appointed to consider these, and finally to draft a Code which wonld take care of all reasonable objections and be one which afforded the greatest possible safety to the worker in the industry. The committee appointed consisted of the following persons:

Representing the Explosives Industry:

C. A. Patterson, E. I. DuPont de Nemonrs and Co., Wilmington, Del.
J. B. Brownstein, Trojan Powder Co., Allentown, Pa.
S. Rand, Aetna Explosives Co., New York City.
J. S. Bnrton, Burton Powder Co., Pittsburgh, Pa.
C. W. Rishell, Cameron Powder Co., Emporium, Pa.
Dr. C. G. Storm, Aetna Explosives Co., New York City.

Representing the New Jersey Department of Labor:

Dr. M. Szamatolski.
John Roach.
N. T. Gordon.

Representing the Pennsylvania Department of Labor and Indnstry:

Dr. Francis D. Patterson.
John S. Spicer.

In addition to the above persons the following served on the committee until it was determined to make a separate Code for factories manufacturing Nitro and Amido Compounds, other than explosives:

George P. Adamson, General Chemical Co., Easton, Pa.
A. B. Mitchell, Benzol Products Co., Marcus Hook, Pa.
J. S. Herbert, Cambria Steel Co., Johnstown, Pa.
T. V. Hodges, The Semet-Solvay Co., Syracuse, N. Y.
R. G. Peterkin, The Barrett Co., Philadelphia, Pa.

This committee after careful consideration finally completed its work and turned the Code over to the Industrial Board of Pennsylvania which finally adopted it. The fundamental principle involved in the code is to eliminate all processes or methods of work or conditions which might cause explosions, either directly or indirectly, and to keep the number of employes exposed to the risk of explosion to a minimum compatible with the manufacturing process.

Too much credit can not be given to the manufacturers who gratuitously gave their services and knowledge for this purpose, as it would have been impossible to have accomplished the purpose without having had their fullest co-operation.

A copy of the Code in full, which was finally adopted by the Industrial Board as Safety Standard Number 19, is printed in this issue of the Bulletin.

Vol. I No. 19

SAFETY STANDARDS

OF THE

INDUSTRIAL BOARD

PENNSYLVANIA DEPARTMENT OF
LABOR AND INDUSTRY

PLANTS MANUFACTURING OR USING EXPLOSIVES

OPERATIVE ON AND AFTER APRIL 1, 1917

INDUSTRIAL BOARD

DEPARTMENT OF LABOR AND INDUSTRY,

STATE OF PENNSYLVANIA.

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RULES AND REGULATIONS

REGARDING THE

MANUFACTURING OR USING OF EXPLOSIVES.

PETITIONS.

The following safety standards have been adopted by the Industrial Board, subject to the provisions of the Law (Act 267, section 15, P. L. 1913) which provides that persons affected may petition the Board for changes in the regulations. Upon the receipt of such petition, it will be reviewed by the Board and if considered necessary a public hearing will be called in regard thereto.

PENALTIES.

Every person or persons who violate any of the provisions of Act 267 of June 2, 1913, or any of the rules or regulations of the Industrial Board, or who resist or interfere with any officer or agents of the Department of Labor and Industry in the performance of his duties in accordance with the said rules and regulations, shall be deemed guilty of a misdemeanor and shall upon conviction thereof, be punished by a fine of not more than one hundred dollars, or by imprisonment not exceeding one month, or both, at the discretion of the court.

EXPLOSIVES.

The word "SHALL" where used is to be understood as mandatory and "SHOULD" as advisory.

> Caution:—Employees shall not remove or make ineffective any safeguards while same are in use, except for the purpose of making repairs, and such safeguards so removed shall be replaced.

The provisions of all Safety Standards issued by the Industrial Board shall apply in all matters not specifically covered herein.

Section 1. Places Covered.

This Code shall govern the operation of all buildings, factories, establishments, or other places where people are employed, wherein explosives are manufactured, used, handled, stored, or in which they are produced as the result of manufacturing processes.

Section 2. Materials Covered.

The following materials are classed as explosives by the Industrial Board: black powder (all varieties), dry guncotton, nitroglycerine, dynamite, chlorates, fulminates, fireworks and any other of their compounds or mixtures or any other substances which are subject to explosion by the aid of shock, friction, spark or heat. Smokeless powder, wet guncotton and wet nitrostarch, while not properly classed with the above as explosives, are also included in these regulations.

EXPLOSIVE VAPORS.

Section 3. Construction of Buildings, Except Experimental and Testing Laboratories.

All rooms or portions of explosives plants in which there are used, generated or found, explosive vapors and wherein persons are employed shall be separated from other rooms or portions of plants by fire resisting walls or partitions, pierced with such openings only as are necessary except when such rooms or portions of plants consist of separate buildings. In such places where the material which is being used or which produces the explosives vapors does not exceed ten gallons in quantity and is confined in approved safety cans it will be necessary only to prohibit the use of naked flames, to post

approved danger signs and to observe safe practices. Materials which give off explosive vapors shall not be stored in workrooms wherein people are employed, unless such materials are stored in closed containers properly vented. Where practical, safety cans should be used.

Where materials giving off explosive vapors are stored in separated or underground storage systems outside of buildings they may be distributed by approved types of pipe lines throughout buildings where persons are employed.

The openings which are necessary in the above mentioned fire resisting walls shall be provided with an approved type of fire resisting door and these doors shall be kept closed at all times except when in use to permit passage from one room or portion of a plant to the other. On all such doors shall be posted an approved danger sign, warning against the carrying of matches or an open light and prohibiting the entrance of any but authorized employees or others designated by the manager or superintendent.

Section 4. Number of Employes.

The number of employees in such rooms or portions of a plant shall be kept to the minimum compatible with the process of manufacture. This can be obtained by building additional fire resisting portions or by the addition of small unit buildings.

Section 5. Lighting.

No open or naked lights such as lanterns, stoves, torches, etc., shall be allowed in such rooms or portions of plants, except for necessary repairs under proper supervision. Watchmen or others using portable lights shall be supplied with vapor proof lights.

Such rooms or portions of plants shall be lighted (if artificial light is needed) by means of an electric system installed in conduit or in lead encased cables, with vapor proof keyless lamps. All switches or fuses shall be located on the outside of such rooms or buildings in a protected place. This installation must conform to the Underwriters' Standards. It would be preferable and desirable if all lights could be projected by reflectors into rooms from the outside through properly located windows. The employment of electric motors other than those of a sparkless induction type, in the above rooms is forbidden.

Section 6. Ventilation.

If the amount of gases or vapors produced in such rooms or buildings is deemed sufficient by the Commissioner of Labor and Indus-

try, or his authorized representative, to be a menace to the safety or to the health of employees working therein, an efficient exhaust system, plans of which must be approved by the Department of Labor and Industry, shall be installed in such rooms and kept operating at all times when persons are employed therein.

During necessary repairs which might cause a spark, all other operations shall cease, and such repairs shall be made only after adequate ventilation has been established to free the room or portion of the plant from explosive gas or vapor.

Section 7. Prevention of Explosions.

Oil lanterns, open lights, and any method of work which might generate a spark are prohibited in the vicinity of acid containers, except when necessary to apply heat for thawing purposes which shall be done under proper supervision. The opening of drums by means of an iron chisel and hammer is prohibited. Suitable wrenches shall be provided.

Localities where such material is stored shall be posted with warning signs calling attention to the danger of bringing naked lights into the vicinity.

Section 8. Nitric Acid.

In view of the danger to the worker from inhalation of nitrous fumes in case of fire or the breakage of carboys, such carboys containing nitric acid shall be stored in detached sheds with sandstone, brick, or other suitable flooring, and in quantities not to exceed one hundred (100) carboys placed in not more than four rows. Nitric acid in carboys may be stored in the open in unlimited quantities.

The following notice will be supplied by the Department of Labor and Industry on application, and shall be posted at all places in plants where there is danger of poisoning by acid fumes.

ACID FUMES.

WARNING.

The Inhalation of Dense Acid Fumes May Cause Death.

Employes are strictly prohibited from entering buildings where dense acid fumes exist, or tanks, or confined spaces which are not entirely clear of acid fumes, unless they wear a helmet.

Employees working in such places shall, in addition to the helmet, wear a life line which is at all times in the hands of an assistant stationed outside of the tank.

Employes who have been exposed to acid fumes and who feel weak, sick, short of breath, or who are attacked with cramps or coughing shall report this condition to their foreman or to the hospital at once so that proper treatment can be given. Don't wait to get home. Delay may be fatal. Take no chances.

Responsibility for complying with these regulations shall rest with the foreman or other person designated for that purpose by the management of the plant.

Failure to comply with these regulations may subject the offender to a penalty of a fine or imprisonment.

Department of Labor and Industry.

Water shall be always available for use in case of evolution of nitrous fumes caused by leakage or other accident to carboys, and all workers handling such acid shall be warned against sprinkling sand, sawdust, earth or anything other than water or alkalies upon any spilled nitric acid.

ASPHYXIATING OR POISONOUS FUMES, VAPORS OR GASES.

Section 9. Places Covered.

In all buildings in which fumes, vapors or gases of an asphyxiating or poisonous nature are manufactured, used handled or stored and in buildings in which chemicals, which give off such fumes, vapors or gases, are produced, used, handled or stored, the following regulations shall be enforced.

Section 10. Resuscitation.

For every fifty (50) persons or less employed in such plant and exposed to such risk there shall be present at all times at least two (2) persons who are trained or competent to apply means of resuscitation by the prone pressure or Schaeffer method or by mechanical devices approved by the Industrial Board.

A sufficient number of helmets of a type approved by the Industrial Board shall be kept at each plant, in order that they may be available for use by every employee who has occasion to enter places where there may be asphyxiating or poisonous gases, fumes or vapors.

All employees who are required by the employer to wear helmets in making repairs or in maintenance work shall be thoroughly instructed in the use of such apparatus and be physically examined by a licensed physician at least once in ninety days or after ab-

sence from work due to either sickness or accident and the physician shall certify to the proper physical condition of the men so employed and no employee shall be permitted to do such repair work unless so examined and certified.

Section 11. Rules of Procedure.

If it is necessary for an employee to enter any vats, tanks or other containers in which there have been used, stored or manufactured, gases, fumes or vapors of an asphyxiating or poisonous nature, or materials which give off gases, fumes or vapors of an asphyxiating or poisonous nature, the following procedure shall be pursued:

(a) Empty containers. Disconnect and blank off all connections.

(b) Clean containers thoroughly by reapeated washings with water, soda water, steam, compressed air or other suitable means.

(c) If the person in charge then considers conditions satisfactory, employees may enter such containers. They must use an approved type of helmet and have attached to their bodies a life line or rope if the person in charge considers it necessary.

(d) The life line or rope shall be under the control of one or more fellow workmen, who shall remain outside of the container, in order that they may render assistance if necessary.

(e) After the work is finished the men should take, at once, a bath and change their clothing, including shoes, if the foreman or other person in charge shall deem it necessary. Facilities for taking such baths shall be provided.

The superintendent of the plant shall be held responsible for the enforcement of these regulations.

A copy of the rules for procedure as given above will be furnished by the Department of Labor and Industry and shall be posted at every place in each plant where asphyxiating or poisonous fumes, gases or vapors may be found.

CHEMICALS.

Section 12. Scope.

The handling and storage of all acids and other chemicals necessary for the operation of explosive plants, not herein provided for, shall be governed by the regulations as set forth in the code governing the operation of chemical works.

EXPLOSIVES.

Section 13. Amount Allowed.

All buildings in which any quantity of explosives is manufactured, handled, used or temporarily stored shall be classed as explosives

buildings. Those buildings, wherein finished explosives not being used in the process of manufacture are kept or are stored for periods exceeding forty-eight hours, shall be classed as magazines.

Explosive material, not in process of manufacture but which is being used in loading detonators, timing or priming caps, or in like manufacturing processes, shall not be stored in workrooms wherein people are employed except under the following conditions:

(a) Where the quantity used for the day's run does not exceed one hundred (100) pounds, it is permissible to keep in closely covered receptacles that necessary for the days run.

(b) Where the quantity necessary for the day's run exceeds one hundred (100) pounds, only one hundred (100) pounds may be stored in the workroom at one time and then only at a place where it shall be suitably protected from careless or promiscuous handling. Additional supplies shall be brought from the magazine as needed.

(c) Explosive materials being used in the above processes may be stored in any quantity in storage buildings erected for that purpose, provided that such buildings are not used for other purposes and are located at proper distances from other buildings wherein persons are employed, or are protected by suitable natural or artificial barricades.

(d) Fulminates or materials of like sensibility shall be brought into workrooms in quantities sufficient only for concurrent use.

Explosive material not in process of manufacture and not being used in processes of manufacturing as above provided for shall be stored in magazines.

Section 14. Plans of Old Plants.

Each concern, manufacturing, using, handling, or storing explosives shall on and after April 1st, 1917, keep in the office of the superintendent of each plant, a plan of said plant showing the location of all explosives buildings and the distance they are located from other explosives buildings or buildings where persons are employed and from magazine, and these plans shall at all times be open to inspection by a duly authorized Inspector of the Department of Labor and Industry. The superintendent of each plant shall, upon the demand of said Inspector, furnish the following information:

The number of persons ordinarily engaged at work in or at each building or the proposed number to be allowed there.

The maximum amount and kind of explosive material which is or will be present in each building at one time.

The nature and kind of work carried on in each building and whether or not such buildings are surrounded by natural or artificial barricades and the dimensions of such barricades.

Section 15. Plans of New Plants.

Every concern hereafter engaging in the manufacture, use or handling of explosives, shall before or at the time of commencing operations, comply with Section 14.

Section 16. Admission to Plants.

The entrance to plants manufacturing explosives exclusively, and to all portions of plants where explosives buildings shall be maintained, shall be fenced off in such a manner as to prevent the entrance of persons other than employees unless permission has first been obtained from the superintendent, manager, or proper authorities.

No persons other than authorized employes or State Inspectors properly identified, shall be allowed in any plant manufacturing explosives or handling or using the same in the process of manufacture unless they have been given written permission by the superintendent, manager, or proper authorities, and are accompanied by them or their authorized representative. A record of such permissions granted shall be kept on file in the office.

No persons upon whom the odor of liquor is detected shall be allowed upon the premises of a plant manufacturing or using explosives, or in any explosives building.

No employee, other than those authorized to do work in or around such buildings, shall be allowed to remain near or in explosives buildings.

Section 17. Material Allowed in Explosives Buildings.

All explosives buildings shall be kept clean of all unnecessary loose tools, refuse and debris of any kind, at all times, and shall not be used as temporary storehouses for material not necessary at that time in the process of manufacture.

No explosives building while containing explosives shall be used as a storehouse for implements or other paraphernalia.

Section 18. Repairs.

Whenever repairs are necessary in an explosives building, they shall be attended to by either a repairs engineer or other authorized person. The foreman, or person in charge of the building, shall be responsible for seeing that only those authorized, attend to these repairs, and that in the case of major repairs all explosive material is removed before repairs are undertaken.

Before work may be resumed, after repairs have been made, all articles other than those allowed shall be removed from the building, and the workroom placed in its original working condition.

Section 19. Matches.

No employee shall have in his possession at any time in any explosives plant, any match or other flame producing device unless he is authorized in writing by the superintendent to do so, in which case approved safety matches only may be used.

A search for matches shall be made by some authorized person at least twice a week at irregular intervals. The finding of a match or other flame producing device on the person of an employee not authorized to have matches in his possession shall be cause for instant dismissal, and the facts shall be reported to the Commissioner of Labor and Industry.

Section 20. Clothing of Employees.

All employees handling loose explosives or working in or around explosives manufacturing buildings where there is a possibility of explosion by the attrition of metals shall wear powder shoes or rubber soled shoes (without iron or steel nails). No pockets shall be allowed in the clothing worn in such work except one skeleton pocket in either the coat or trousers. Neither iron nor steel buttons, nor other metal attachments, shall be allowed on such clothes, nor shall metal objects, such as knives, keys, etc., be allowed to be carried in the pockets.

All explosives buildings shall be provided at each entrance with suitable devices whereby the shoes of all those persons entering such buildings can be cleaned and all persons before entering such buildings shall wipe or clean their shoes.

Section 21. Change or Locker Houses.

Suitable change or locker houses shall be provided where employees can change their clothes and wash.

No lockers shall be allowed in explosives buildings.

Section 22. Transportation, Machinery and Platforms.

All trucks or conveyors used for the transportation of loose explosive material, except smokeless powder not in the dry state or wet nitro compounds, shall be provided with either side or end rails, or guards, to prevent any explosives from slipping off the truck or other conveyors. Only trucks or other conveyors that are in perfect repair shall be used.

Careful inspection shall be made daily by the foreman to see whether all machinery used in the manufacture or handling of explosives is in perfect order. If not found in such shape, it shall not be used until placed in perfect condition.

All dangerous machinery and moving parts of machinery shall be guarded in approved manner as specified by the Safety Standards of the Industrial Board of the Department of Labor and Industry.

All platforms, stairways, tanks, vats, runways and other dangerous places shall be guarded by standard railings and toe boards as required by the Industrial Board Standards on Standard Railings and Toe Boards, except where there is danger of dust collecting, when toe boards shall not be used, but in all such instances special permission shall be obtained from the Department of Labor and Industry. Metal shall not be used for railings and toe boards where its presence increases the danger of an explosion and no railings or toe boards shal be installed so as to interfere with safety exits.

Either the tread of all wheels on trucks or conveyors or the rails used inside of explosives buildings shall be composed of non-sparking material.

Section 23. Hand Carrying of Explosives.

Where explosives are carried from one building to another, as for instance from magazines to workrooms, employees carrying such explosives shall not be allowed to follow each other closely but must allow an interval of at least one minute in time or one hundred (100) feet in distance. This does not apply to such explosives as tri nitro toluol and smokeless powder.

Section 24. Cleanliness.

If any explosive material or ingredients shall be spilled, they shall be immediately cleaned up.

The floors of all explosives buildings shall be so laid as to be as free as possible from cracks, openings or any irregularities and no projecting or visible iron or steel nails shall be permitted in such floors.

Section 25. Lighting.

Temporary or loose electric wiring, such as extension lights, etc., is absolutely prohibited in explosives buildings except in case of emergency while making necessary repairs.

All inside electric wiring shall be of a permanent character installed in metal conduit or lead encased cable with vapor proof keyless lamps. Installation of material of same shall conform to the Underwriters' Standards.

Section 26. Table of Distances.

(A table of distances is now in process of preparation and will be issued at an early date.)

Section 27. Protection Against Lightning.

Lighting protection shall be provided for all electric conduits and circuits entering explosives buildings, by means of suitable lightning arresters installed outside and not on the buildings. All installations must be in accordance with Underwriters' Standards.

Section 28. Heating.

The workrooms, when desirable, shall be heated by an approved system of steam, indirect hot air radiation or hot water. The temperature of the steam shall not exceed 120° Centigrade. The radiators shall be at least one (1) inch distant from all wooden walls or other inflammable material and shall be attached in such a manner that they can be easily inspected and cleaned.

Section 29. Fire Extinguishing Apparatus.

Al outside water mains shall be underground below the frost line. The provision of chemical fire extinguishers is recommended under certain conditions but not in high explosives and black powder manufacturing buildings. In workrooms where alcohol or other easily inflammable liquids, in quantities over one barrel, are being used, steam pipes or sprinkler systems for the extinguishing of fires shall be provided.

In addition to the foregoing regulations the following shall be observed with reference to the manufacture and handling of the respective substances enumerated below:

NITROGLYCERINE—ITS COMPOUNDS AND MIXTURES (DYNAMITE, ALL VARIETIES: GELATIN DYNAMITE, ETC.)

NITRATOR HOUSE.

Section 30. Floors.

The floor of the nitrator house shall either be covered with sheet lead or the nitrator shall stand in a suitable lead pan, drained to the drowning tank. All seams and joints shall be lead burned in a careful manner, so that there may be no crevices in which nitroglycerine will lodge.

The floor shall be so constructed as to be readily washed and drained.

New lead floor covering shall be extended by means of a round corner at least three inches up each side wall, thus making a sanitary corner.

Section 31. Thermometers.

At least two reserve thermometers shall be kept in each nitrator house for use in case of emergency.

Section 32. Construction and Operation.

When in the judgment of the Commissioner of Labor and Industry or his authorized representative, fumes are being given off, adequate vent pipes shall be provided to carry off all fumes from the nitrator to the outside of the building.

There shall be a daily inspection of the nitrator and a test of its coils.

No iron valves shall be allowed on any nitroglycerine pipe lines, except quick opening nitrator plug cocks, which shall be frequently lubricated. All other valves or stop cocks or nitroglycerine pipe lines or containers shall be of stoneware, earthenware, hard rubber or wood and shall be kept clean and greased.

No repairs shall be made during nitration except in emergencies.

Nitrators shall be provided with coils for cooling by cold water, or brine or other suitable means and also with means for both mechanical and compressed air agitation.

No more than two nitrators shall be installed and not more than three employees shall be regularly employed in any one building.

During nitration the attention of one employee shall be given wholly to observing the thermometer and running in the glycerine.

No removal of supplies of acid or glycerine drums shall be allowed in the nitrator house while nitration is going on. The nitrator house shall be located not less than the approved distance from the nearest operating building containing other employees. The glycerine heating house and acid tanks are excepted.

No charge of nitroglcerine shall be sent to the separator house in a hose line while nitrating operations are in process.

Catch boxes shall be provided on all outlets for wash water and inside catch boxes, if used, shall be cleaned weekly, at times when there is no charge of nitroglycerine in the nitrator house.

The floors shall be washed daily at the conclusion of the day's work.

Section 33. Drowning Tanks.

Each nitrator house shall be provided with a drowning tank which shall have a water capacity of at least five times the amount of the acid charges and be provided with an air agitator and water inlet. All valves shall be located conveniently for the operators in case of emergency.

SEPARATOR HOUSE.

Section 34. Floors.

The floor of the separator house shall be covered with sheet lead with all seams and joints lead burned in a careful manner, so that there may be no crevices in which nitroglycerine will lodge.

The floor shall be so constructed as to be readily washed and drained. The lead floor covering on new buildings shall be extended by means of a round corner at least three inches up each side wall, thus making a sanitary corner.

A lead pan under the receptacle for holding nitroglycerine will be acceptable, in old construction, in lieu of a complete lead floor covering.

Section 35. Thermometers.

Plain reading thermometers shall be supplied in each separating tank and a reserve supply of at least two shall be kept in each separator house.

Section 36. Construction and Operation.

Not more than two charges shall be allowed in a separator house at one time.

The maximum number of regular employees in each separator house shall be three.

All stopcocks or valves on nitroglycerine pipe lines or containers shall be of stoneware, earthenware, hard rubber or wood.

Catch boxes shall be provided on all outlets for wash water and inside catch boxes, if used, shall be cleaned weekly, at times when there is no charge of nitroglycerine in the separator house.

No charge shall be sent from the separator house at a time when a charge is being received.

Each separating tank shall be cleaned and the floors washed daily at the conclusion of the day's work.

It is permitted to carry on the three operations of nitration, separation and neutralization in one building, provided that the regulations prescribed for each individual operation are complied with.

Section 37. Drowning Tanks.

An air agitator shall be provided for each separating tank and the outlet of each tank shall be suitably arranged so that the entire charge may be drowned in a drowning tank which shall have a water capacity of at least five times that of the acid charge. This drowning tank shall be provided with an air agitator and water supply.

NEUTRALIZING, STORAGE AND FREEZING HOUSES.

Section 38. Floors.

The floors of each of the above houses shall be covered with sheet lead, with all seams and joints lead burned in a careful manner so that there may be no crevices in which nitroglycerine will lodge.

The floors should be so constructed as to be readily washed and drained.

The lead floor covering on new buildings shall be extended by means of a round corner at least three inches up each side wall, thus making a sanitary corner.

A lead pan under receptacles for holding nitroglycerine will be acceptable in old construction in lieu of a complete lead floor covering.

Section 39. Construction and Operation.

The maximum number of regular employees in each one of these houses shall be three.

Catch boxes on the outlets for all wash water shall be provided. Inside catch boxes when operating shall be cleaned at least once a week, at a time when no charges are being sent from the house or are being received into it.

No charge of nitroglcerine shall be sent out of a house into a pipe line or gutter during the period in which a charge is being received.

The floors shall be washed daily at the conclusion of the day's work.

Section 40. Acid Burns.

A water outlet or shower bath shall be provided inside of all houses where an employee may be in danger of being burned with acid.

TRANSPORTATION.

Section 41. Hose Lines.

Before and after a charge of nitroglycerine is sent down a line in cold weather, hot water shall be sent down through the hose line or in a gutter surrounding the hose line.

All nitroglycerine lines shall be carried on substantial scaffolding or runways and shall be protected by suitable covering.

A thorough examination of the complete system shall be made monthly by some responsible person and a written report rendered by the official to the superintendent or manager of the plant.

No nitroglycerine lines shall be located or pass an explosives building in such a way as to be liable to rupture or other injury in case of an explosion occurring in a building with which it is not connected.

Hose lines shall be made of the best grade of rubber.

Section 42. Gutters.

If lead gutters are used instead of hose lines, they shall be formed of at least six (6) pound lead, suitably lead burned and located so that they will drain completely toward one end. Rubber gutters are permissible but shall be made of a good quality of rubber.

Section 43. Carriages.

All carriages for the transportation of nitroglycerine shall be of an approved design, shall be equipped with rubber tires and be of a capacity not exceeding eight hundred (800) pounds.

Smooth runways for these carriages shall be provided and shall be kept in good repair at all times.

Section 44. Hand Mixing House.

The floor of the hand mixing house shall be covered with linoleum, rubberoid or other suitable covering, laid by either lapping joints or cementing their edges.

Section 45. Construction and Operation.

The maximum number of employees allowed in the mixing house shall be three, except at a time when supplies are being received or finished material is being taken away, when the number may be increased to five.

Proper precautions shall be taken to prevent the freezing of nitroglycerine.

No nitroglycerine shall be stored in the mixing house in excess of that necessary for the next two charges.

The mixing bowl shall be made of wood, lead line; or of some other approved substance.

All shovels and rakes shall be made of wood.

No iron or steel tools of any kind shall be allowed in or about a mixing house, at platforms or entrances, except in case of repairs when operations shall cease and explosives shall be removed. No iron drums shal be rolled or dragged over the floor or platform.

The maximum amount of nitroglycerine in a mixing house at one time shall be two thousand (2000) pounds.

No mixed powder shall be regularly allowed to remain in a mixing house over night.

MACHINE MIXING HOUSE.

Section 46. Operation.

The regulations for the hand mixing house shall cover the machine mixing houses with the following exceptions.

The maximum number of regular employees in a mixing house at one time shall be four, except at a time when supplies are being received or finished material is being taken away when the number may be increased to six.

The maximum amount of explosive material allowed at one time in the building shall be four thousand (4000) pounds.

HAND PACKING OR PUNCHING HOUSE.

Section 47. Operation.

The maximum number of regular employees in each hand packing or punching house shall be seven.

The floors of such houses shall be covered with linoleum, rubberoid or other suitable covering laid by either lapping joints or cementing their edges.

No explosive material shall be stored therein during operations except that which is necessary for the day's work.

A thorough cleaning shall be given at the conclusion of the day's work and all refuse material shall be destroyed according to the method adopted at that particular plant.

Proper precautions shall be taken to prevent the freezing of nitroglycerine and no powder shall be packed in a frozen condition.

PARAFFIN DIPPING.

Section 48. Operation.

All dipping of cartridges must be done in a jacketed kettle, the heat being supplied by either hot water or steam with a maximum pressure of twenty (20) pounds.

BOX PACKING HOUSE.

Section 49. Number of Employees.

The maximum number of regular employees shall be seven. Whenever the output of the plant is such as to require a larger number of employees they shall be placed in a separate unit protected by barricades.

GELATIN MIXING AND PACKING.

Section 50. Operation.

All gelatin mixing shall be done in a building provided for that purpose.

The gelatin packer or "sausage" machine shall be located in a separate building, except when the number of employees is four (4) or less when mixing and packing operations may be carried on in the same building.

The maximum number of regular employees in a packing house shall be five.

The maximum number of regular employees in a mixing house shall be four.

When the output is such that it requires an additional number of hand wrappers, they shall be housed in a separate building.

BLACK POWDER MILLS.

Section 51. Materials Used.

All materials used in the manufacture of black powder shall, prior to mixing or incorporating, be subjected to a magnetic separator or put through a screen.

Section 52. Incorporating Mills.

The mechanism for the starting or stopping of an incorporating mill shall be so arranged that after the material has been placed in the bowl, the mill can be started only by an employee from a reasonably safe station, and then only after all employees have left the building.

No loading or unloading of ingredients or finished mixed material shall be done while the mill is in operation.

It is recommended that all bolts or parts of machinery which might break off and fall into the mill, while it is in course of operation, shall be suitably protected so that in the event of such breakage, these parts will not fall into the mixing bowl.

Section 53. Cleaning.

All buildings shall be wet down from time to time as necessity demands; and cleaned daily.

On at least one day in each week, at a time designated by the superintendent, there shall be a thorough cleaning of each building with the removal of all accumulated dust on walls and ceilings.

All buildings, in which loose powder is handled shall be provided with suitable hose and water connections so that a wet down can be given as often as necessary.

Section 54. Examination of Machinery.

Workmen when going on duty shall first examine each mill or building in their respective charge, oil up, and if anything is out of order, report at once to the superintendent or foreman.

Under no circumstances shall the mill be started unless in proper condition.

When any foreign substance is thought to be in the powder, work and machinery must be stopped at once and report made to the superintendent or foreman.

At the conclusion of the day's run the machinery and belts shall be examined and if not found to be in first-class condition, a report shall be made to that effect to the superintendent or foreman.

Section 55. Repairs.

In the event of any major repairs being necessary in any of the buildings, work shall cease at once and those employees so designated shall properly clean up the room and machinery by the removal of all loose powder and dust and afterwards thoroughly wet down all parts of the machine and room. Such repairs shall be made only by persons designated by the management.

In order that the number of persons present at such times may be kept to a minimum, the millwright or mechanic shall send away any of his helpers when he can dispense with their services. When repairs are complete, all tools taken to the mill shall be accounted for and removed before starting the mill.

Caked powder can be removed by soaking with water and then loosening by means of a wooden shovel or wooden spud.

Section 56. Electric Apparatus and Lighting.

The lighting of all buildings shall be as provided for in Section 5 and no electric devices which may give off sparks shall be permitted in any room where powder dust may accumulate or be present.

Section 57. Implements.

No metal implements of any kind, except those made of non-sparking metal, shall be used in handling powder.

GUNCOTTON, NITROSTARCH, SMOKELESS POWDER AND SIMILAR PRODUCTS.

GENERAL.

Section 58. Standard Railings.

All platforms, openings and stairways shall be guarded with standard railings as provided in Safety Standards of the Industrial

Board on Standard Railings and Toe Boards, Vol. 1, No. 2, except where there is danger of explosive or inflammable dust collecting, when toe boards shall not be used. Metal shall not be used for railings and toe boards where its presence increases the danger of an explosion and no railings or toe boards shall be installed so as to interfere with safety exits.

Section 59. Walks or Runways.

Walks or runways should not be built over the tops of tanks or vats but should be located at the sides of such containers at least 3 feet 6 inches below the top. Where such conditions cannot be obtained standard railings shall be installed and toe boards where necessary.

Section 60. Escape from Buildings.

All explosives buildings two or more stories in height shall have at least one outside means of escape which shall be of the chute type or a sloping lateral runway. In no case shall steps or ladders be considered a sufficient substitute.

Section 61. Removal of Acid Fumes.

Provisions shall be made for the carrying away of acid fumes at all stages of the nitrating process, i. e., while filling the nitrating vessels with acid, while adding the cotton and while taking the nitrated cotton from the nitrating apparatus and placing it in wringers or centrifuges.

Section 62. Protection of Employees.

Employees shall be urged to wear suitable protective clothing such as rubber gloves, rubber aprons, and rubber shoes or boots. Suitable types of respirators and goggles shall be provided.

Section 63. Centrifugal Sheds.

Each centrifugal wringing out waste acid shall be separated from other certifugals by partitions or shall be located at a safe distance from other centrifugals. The compartments or sections so created shall be so arranged that employees can make a quick get away in case the cotton should ignite.

Adequate water facilities shall be provided for fire fighting apparatus and also for outlets for washing purposes and for shower baths. The latter are necessary especially in the event of workmen receiving acid burns.

ROOMS CONTAINING ETHER VAPOR.

Section 64. Operation.

All rooms which may contain ether vapor shall be governed by Section 3 to Section 6 inclusive.

Section 65. Electric Apparatus.

No electric apparatus capable of giving off a spark shall be allowed in such rooms.

Section 66. Floors.

Floors shall be of such construction that they can be kept clean.

Section 67. Doors.

An approved number of exit doors for a quick get away shall be provided in such buildings.

DRY HOUSES, DRY DUMP HOUSES AND BLENDING HOUSES.

Section 68. Grounding of Bins.

All powder bins shall be suitably grounded to insure safety from static electricity.

A monthly inspection and report shall be made of the condition of such apparatus by a competent person designated by the superintendent.

Section 69. Number of Employees Allowed.

(A) Dry Houses and Dry Dump Houses.

Not more than six employees shall be allowed inside of a dry house or dry dump house or around such houses while a filling or emptying process is being carried on.

(B) Blending Houses.

(a) Not more than twelve employees shall be allowed inside of a cordite blending house.

(b) Not more than ten employees shall be allowed inside of a gravity type of blending house. By gravity type is meant that type of blending house in which the entire charge of powder is deposited in a bin or funnel situated one or more floors above the packing floor.

(c) Not more than eight employees shall be allowed inside of a bin type of blending house, i. e., a house in which all operations are carried on on one floor.

If more than eight men are necessary to carry on operations in a gravity or bin type of blending house, a maximum number not exceeding twelve men will be permitted, providing a fire resisting wall of a type approved by the Commissioner of Labor and Industry, or his authorized representative, shall be erected. This wall shall separate the employees who are engaged in weighing, packing and inspecting from the bins containing the powder. A covered fire resisting means of escape, extending at least seventy-five (75) feet from the building, shall be erected. The plan and type of this means of escape shall be approved by the Commissioner of Labor and Industry, or his authorized representative.

The restrictions as to the number of men mentioned above is intended to include laborers and foremen but not to include inspectors, superintendents or other members of the plant manager's staff, whose duties may require their presence occasionally to see that the work is being carried on properly.

MONTHLY BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

JOHN PRICE JACKSON, Commissioner

A BULLETIN OF INFORMATION FOR THE PUBLIC

JUNE, 1917.

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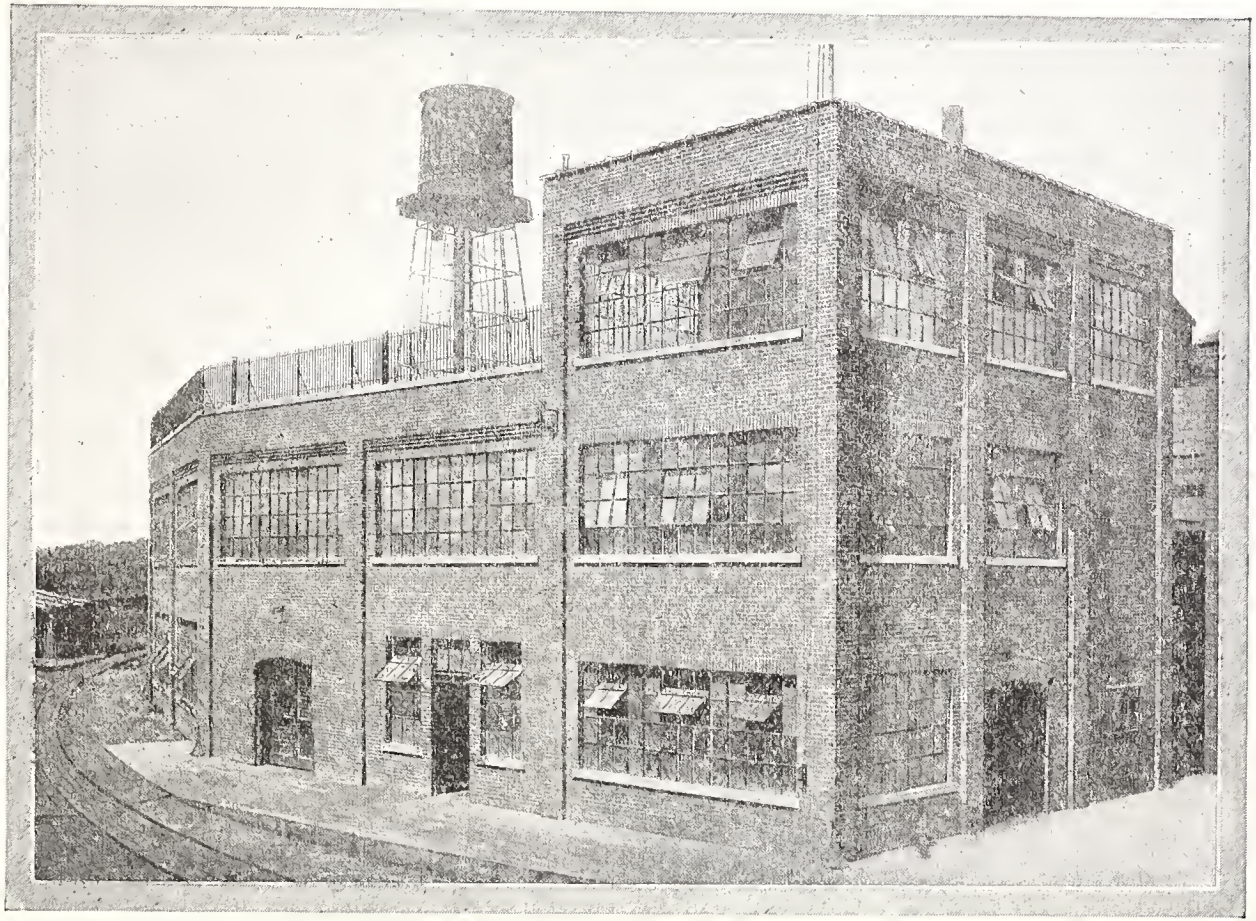

This building was erected to safeguard the health of the workmen of the American Pulley Company, Philadelphia. See page 21.

CLINIC FOR THE STUDY OF OCCUPATIONAL DISEASES ESTABLISHED BY CO-OPERATION OF THE UNIVERSITY OF PENNSYLVANIA AND DEPARTMENT OF LABOR AND INDUSTRY. REPORT OF INVESTIGATION OF HEALTH OF FOUR HUNDRED TOBACCO WORKERS. OCCUPATIONAL DISEASE EXHIBIT.

Diseases peculiar to various occupations and industrial vocations, causes, effects and methods of prevention are being intensively studied at a clinic established at the University of Pennsylvania Hospital in Philadelphia through co-operative action of the University of Pennsylvania with the Pennsylvania Department of Labor and Industry.

This clinic, which is one of the first of its kind in this country, has already prepared a preliminary report of an investigation of four hundred workers from seven factories of the tobacco industry. The complete report is included in this article. An exhibit of models and photographs, dealing with occupational diseases, has been loaned to the clinic by the American Museum of Safety. This exhibit, which is the most complete collection in America upon the subject of occupational and vocational diseases, presents the chemical causes of trade diseases. bacterial causes of trade diseases and general causes of trade diseases as well as including many miscellaneous models under the general subject. An inventory of this exhibit is also included in this article.

Clinic Organized in November, 1916.

Announcement of the contemplated establishment of the clinic for the study of occupational diseases, in charge of Dr. Alfred Stengel, Professor of Medicine, of the University of Pennsylvania, was made at a conference of industrial physicians held at Harrisburg during 1916 by the Division of Hygiene and Engineering of the Department of Labor and Industry. This announcement was made as the result of conferences between Commissioner John Price Jackson of the Department of Labor and Industry, Dr. Francis D. Patterson, Chief of the Division of Hygiene and Engineering of the Department and Dr. Stengel of the University of Pennsylvania.

Organization of the clinic was effected in November, 1916. The Board of Managers of the University Hospital, having given their

consent to the establishment of the clinic, arrangements were made that it might be conducted in Philadelphia,—the center of diversified industries,—through such co-operative action that it might accomplish the twofold purpose of scientific study of disease and, at the same time, be of great practical value to the Department of Labor and Industry of the Commonwealth.

Dr. T. Grier Miller was appointed chief of the clinic and he and Dr. Stengel were made deputy inspectors of the Department of Labor and Industry in order that they might have the power to conduct investigations in an official capacity. At present the activities of the clinic may be divided into three parts:—out-patient service, hospital service and special investigations.

The Out-Patient Service:—Dr. Miller attends the out-patient department at a fixed hour daily, and examines any patient referred to the occupational disease clinic from industrial plants, from other clinics of the University Hospital, or from any other hospitals when occupational disease is suspected or is present and requires further study. The number of cases referred to the clinic in this manner has not been large but is growing and will undoubtedly steadily increase.

Hospital Service:—Many cases coming before the Occupational Disease Clinic and requiring attention in the hospital are referred to the medical wards, and all clinical examinations or laboratory investigations, that may be required, are then made. A number of very interesting problems have been encountered in such cases. Among noteworthy instances of occupational diseases, so studied, are cases of pulmonary disease in miners, stone cutters and similar workers; a series of cases of lead poisoning; some cases of poisoning in connection with workers in powder mills and other chemical plants and a few cases of skin disease (from keratosis to carcinoma) in persons of various occupations involving contact with pitch, soot, heavy oils, etc.

Special Investigations:—Soon after the establishment of the clinic, and at the request of the Department of Labor and Industry, Dr. Miller began an investigation of tobacco workers. He completed this study and has referred his findings to the Industrial Board of this Department for its guidance in the matter of rulings to be made by the Board in connection with the tobacco industry. In this work Dr. Miller was assisted by Miss Keech a social worker, and, to a certain extent, particularly in the matter of hygienic conditions of the plant, by Dr. Smyth of the Division of Hygiene of the University of Pennnsylvania. Dr. Smyth acts as hygienist to the Occupational Disease Clinic. He has made studies of the dust and

air in the plants under investigation and these studies will doubtless prove a valuable contribution to the work of the clinic.

Arranging For Studies of Textile Workers.

Arrangements have been made for another investigation of industrial workers on a larger scale in connection with the Public Health Department of the United States Government. A number of conferences have been held by the members of the clinic, officials of the Department of Labor and Industry at Harrisburg, and Dr. Schereschewsky of the United States Public Health Service; and work has been started on an investigation of textile workers. The first to be studied will be the silk industry. The study contemplated will be a comprehensive investigation of the hygienic, economic, sociological, as well as medical, aspects of the problem.

In connection with the Occupational Disease Clinic, a library and museum have been begun which it is hoped will prove of particular interest to other investigators who may wish to avail themselves of the facilities gathered together and also to the members of the clinic who will be engaged in the teaching of students. The rapid growth of interest in industrial diseases, with the acknowledged importance of this subject, makes it probable that medical schools will very soon introduce into their curricula adequate teaching of this branch of medical science, and it is intended by those conducting the clinic to organize this teaching so that a beginning can be made in the next collegiate term.

In addition to the direct study of cases of industrial disease and investigations of various industries, arrangements have been made with the directors of two of the more important scientific laboratories of the University of Pennsylvania to make provisions for any necessary scientific or experimental investigations in connection with the cases or problems that may arise.

Investigation of Tobacco Workers.

The preliminary report, made to the Industrial Board, of the investigation of the physical condition of four hundred workers in seven tobacco factories in Pennsylvania as conducted by Dr. T. Grier Miller, is presented in the following pages:—

OCCUPATIONAL AND INDUSTRIAL CLINIC, HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, IN CO-OPERATION WITH PENNSYLVANIA DEPARTMENT OF LABOR AND INDUSTRY.

To the Industrial Board,
Department of Labor and Industry,
Commonwealth of Pennsylvania,
Harrisburg, Pa.

Gentlemen:

I wish to give you herewith a brief report upon some of the findings of the Occupational and Industrial Clinic of the University of Pennsylvania in its study of the tobacco industry in Philadelphia. I shall limit myself largely to those facts which I think may be of help to you in your decision upon the matter of children under 16 years of age being employed in the banding and packing departments of this industry. At the outset I will state that the number of children under 16 encountered in our study was so extremely small that the data we have upon them is of no value, and we shall have to be content with evidence gathered from a study of older workers in the banding and packing departments and comparisons of these with the general averages for the workers in other processes.

In a communication from Dr. Alfred Stengel last year I believe that you were given our review of the "literature upon the medical effects of the tobacco industry," and I shall here only recall to your attention that the writers are so divided in their opinions that no conclusions can be deduced, although there is evidently a tendency among the more recent ones to be less unfavorable to the tobacco industry.

This study has included 400 workers from 7 factories, whose total of employes is about 2,500. Of these, 302 were females and 98 males. Of the males, 57 were cigar makers, 18 packers, 14 dryers, and 9 casers; of the females, 157 were cigar makers, 73 packers, 51 strippers, and 21 banders. There were thus 91 packers and 21 banders examined, 38% of the total. The male packers had been in the industry for an average of 14.6 years and in the immediate factory for 5.2 years,whereas the averages for all the males were 14.81 and 5.3 years. The female packers had been in the business on the average of 4.4 years, the banders 5.1 years, and in the immediate factory 3.4 years and 3. years, while the general averages for the females were 6.3 and 2.8 years. These figures for the length of time in the immediate factory are interesting in view of the fact that many, even some of the employers we encountered, claim that these workers are not steady.

As to the nativity of these people, we found that 222 or .55.5% were born in the United States, whereas only 99 had native born fathers and 106 native born mothers. Forty-eight were born in Russia, 45 in Austria-Hungary, 23 in Italy, 20 in Germany, and lesser numbers in Poland, the West Indies, England, Holland, and Rumania. Germany stood third in frequency of nativity of the parents, Austria-Hungary and Italy following. Of the packers and banders, 78% were native born.

As to ages, we had among our 400 only 3 who were under 16 and these were female packers; and there were only 5 under 16 years in the 7 factories in which our work was done. There were 53.5% of the total number betwen 16 and 24 years of age and 62% of the packers and banders were in this age group, and of these 90% were female. All but one of the female packers and banders were under 40 years of age.

Of the male packers, 55½% were married; of the females only 17.8%, and of the banders 28.5%; whereas of the total 39.5% were or had been married.

In regard to religion, 45.2% of the 400 were Catholic, 28% Protestant, and 24% Jewish. Of the male packers 78% were Protestant, and of the female packers and the banders 53% were Catholic.

In view of the numerous statements in the literature that the menstruation of tobacco working women was frequently disturbed, we paid particular attention to the history of this function. Among 296 women we found that 232,—78.4%, gave entirely negative histories in this respect, that only 14.2% had dysmenorrhea, and 5.7% irregularities. This is an extremely small percentage of disturbance, being about what would be expected among women in general. Of the 94 banders and packers, 78.6% were negative, showing them to be quite as normal as the workers in other processes, and this in spite of the fact that the packers have to stand at their work.

It has been claimed that tobacco has an inhibitory influence on birth rate and Emerson and Tracy (Reports of the Health Dept. of N. Y. City, 1874, 649) say that in one group of 58 families only 66 children were found and in another group of 53 families 95 were found. Of the 93 married women whom we encountered we got a history of 43 (46.2%) who had had no offspring, and to the other 50 only 93 children had been born, an average of only 1.9 to each mother and one to each married women.

TABLE I.—Average Measures of 400 Cigar Workers.

	Males.					Females.				
	Cigar makers.	Packers.	Dryers.	Casers.	General average.	Cigar makers.	Packers.	Strippers.	Banders.	General average.
Weight, in kilog., ...	62.4	64.9	64.1	67.1	63.5	58.1	54.8	60.8	56.6	57.6
Height, in cms., ...	169.6	169.1	169.	166.	169.3	160.6	162.7	161.1	159.3	161.2
Breadth shoulders, in cms.,	38.2	39.2	39.1	39.6	38.7	36.2	35.9	36.9	36.1	36.2
Breadth chest, in cms., ...	26.5	26.9	27.3	28.3	26.9	25.3	24.6	24.3	25.5	25.
Breadth waist, in cms., ...	25.4	25.8	27.2	28.2	26.	22.3	21.6	22.8	22.	22.2
Breadth hips, in cms., ...	32.1	32.1	33.8	33.7	32.5	34.1	33.3	34.	33.	33.8
Depth chest, in cms., ...	19.4	19.4	21.7	20.9	20.	18.3	18.5	17.2	18.8	18.2
Depth abdomen, in cms., ..	19.1	19.8	22.	20.5	19.9	18.	18.2	18.1	18.5	18.1
Girth neck, in cms., ...	35.1	35.2	34.9	35.7	35.2	31.7	31.1	32.	31.2	31.6
Girth chest, in cms., . { con.	84.8	85.1	89.5	91.7	86.1	80.8	79.4	80.8	82.7	80.6
{ exp.	91.2	92.	94.6	97.	92.4	85.8	85.5	87.3	87.3	86.1
Girth waist, in cms., ...	77.7	79.3	83.6	93.5	79.3	70.3	69.2	75.2	70.	70.9
Girth hips, in cms., ...	92.3	94.2	98.9	96.6	93.9	97.5	95.1	102.6	97.	97.7

The past medical and surgical history of these workers revealed nothing significant, the usual diseases of childhood and early life appearing in the usual frequency and about equally distributed among the workers in all the processes.

An anthropometric study of these groups of workers has shown no essential variation from the general averages among the packers and banders. Reference to the appended table (1) and chart will make this clear and will at the same time emphasize the low stature, the narrow shoulders, the increased depth and girth of the waist, and the impaired chest expansion of the men.

The drops in the female curves for weight, shoulder breadth, breadth of waist and chest, chest depth, and girths of neck and waist, and the heighth of the hip breadth and girth curves are more apparent than real, since this chart was designed for men only, it serves, however, to show the close resemblance of the measurements of the packers with the general average.

Although statements as to build, posture, nutrition, and development are relative matters and influenced by the personal element of the examiner the following table may have some value:

	Build.		Posture.		Nutrition.		Development.	
	Total.	Banders, packers.	Total.	Banders, packers.	Total.	Banders, packers.	Total.	Banders, packers.
Good,	235	70	266	79	255	72	238	64
Fair,	152	37	92	25	117	35	138	36
Poor,	10	4	40	7	27	5	16	6
Not stated,	3	1	2	1	1	0	8	6
Total,	400	112	400	112	400	112	400	112

I am including in this report also a table (Table 2) of my physical findings in these workers, by means of which comparisons may be made between the several groups and the totals for the males and the females and the two combined.

TABLE 2.—Physical Findings in 400 Tobacco Workers.

	Males.							Females.				
	Total.	Per cent.	Cigar makers.	Packers.	Dryers.	Casers.	Total.	Cigar makers.	Packers.	Strippers.	Banders.	Total.
Conjunctival congestion,	234	58.5	34	13	9	7	63	73	49	33	16	171
Dental caries,	157	39.2	19	7	13	7	46	52	28	23	8	111
Tremor of eye lids,	152	38.	10	6	1	3	20	64	40	22	66	132
Glands:												
Axillary,	129	32.2	29	13	8	5	55	50	17	2	5	74
Cervical,	79	19.7	16	7	6	3	32	21	20	5	1	47
Epitroch,	41	10.2	19	7	6	5	37	2	1	0	1	4
Pharyngeal congestion,	88	22.	20	9	10	3	42	22	8	16	0	46
Tonsils:												
Diseased,	57	14.2	6	2	2	0	10	28	7	8	4	47
Enlarged,	53	13.2	3	1	1	1	6	34	7	4	2	47
Hyperactive reflexes,	47	11.7	3	0	0	0	3	12	24	6	2	44
Lungs:												
slight rt. apical infiltration,	46	11.5	6	3	3	0	12	13	12	6	3	34
slight lt. apical infiltration,	9	2.2	2	1	0	0	3	2	2	1	1	6
definite apical infiltration,	6	1.5	1	1	1	0	3	2	0	1	0	3
emphysema,	6	1.5	3	0	2	0	5	1	0	0	0	1
general fibrosis,	5	1.2	2	1	0	2	5	....	....	....	....	....
Total numbers,	400	...	57	18	14	9	98	157	73	51	21	302
Thyroid fulness,	23	5.7	....	....	....	....	....	9	9	2	3	23
Heart: mitral systolic murmur,	20	5.	0	0	4	2	6	4	7	1	2	14
weak myocardium,	11	2.7	6	1	0	0	7	2	0	0	2	4
arhythmia,	6	1.5	....	....	....	....	....	1	3	2	0	6
pulmonic systolic murmur,	5	1.2	....	....	....	....	....	0	3	2	0	5
mitral presystolic murmur,	3	0.7	....	....	....	....	....	1	0	2	0	3
aortic systolic murmur,	1	0.2	....	....	....	....	....	0	0	0	1	1
Arteriosclerosis, fairly marked,	10	2.5	6	1	3	0	10	....	....	....	....	....
Pyorrhea,	45	11.2	8	6	10	2	26	14	0	4	1	19
Wearing of teeth,	110	27.5	28	3	4	3	38	64	0	8	0	72
Insufficiency of teeth,	71	17.7	9	5	7	5	26	18	16	8	3	45
Total numbers,	400	....	57	18	14	9	98	157	73	51	21	302

Blood Pressure Studies.

Number studied, ...	30	14	11	9	64	78	33	27	9	147
Systolic pressure, average,.	124	130	130	131	128	118	121	127	127	121
Diastolic pressure, average,	80	82	80	73	81	78	82	85	74	81

I would call especial attention to the frequency of conjunctival congestion, wearing of the teeth, and pharyngeal congestion. The congestions of the conjunctives and the throat are distinctly abnormal and are unquestionably, in some measure at least, due to the dust and fumes of the tobacco. This is probably not the whole explanation, however, because 70% of the packers and banders show this phenomenon, whereas only 50% of the cigarmakers do; and the latter, as I shall show presently, work in a much more dusty and ammoniacal atmosphere. Furthermore, the packers are forced to use their eyes quickly and very accurately in selecting and grouping the various colors of cigars. If a refractive error is present and uncorrected it will almost certainly bring about hyperemia under the stress of such work. There are also the questions of temperature, moisture, and air movement to be considered as predisposing causes. We are now pursuing studies along these lines, and will comment further upon this in the present report.

The pharyngeal congestion on the other hand, which averages for all the workers 22%, shows only 15% among the packers and banders, the more dusty processes presenting the highest figures. It would seem that there might be more reason for attributing this condition to the dust itself, although a low relative humidity, which we have been able to demonstrate in many of these rooms, is not to be overlooked in this connection.

The wearing of the teeth is a pathological finding definitely incident to the industry as we have found it. It will be observed that there is none of this among the female packers and banders, and only in three instances among the male packers. It is present, however, in 43% of the cigarmakers. It consists in a gradual wearing down of the biting and grinding surfaces of the teeth until in some old workers the fattened and smoothed approximating surfaces are on a level with the gum margins. All intermediate stages may be seen, depending upon the number of years of work and the frequency of the habit, still quite common in the factories thus far visited, of biting out the ends of the cigars. In so doing the gritty material of the tobacco, as well as the plant itself, gets into the mouth and acts like emery dust in slowly grinding down the dental surfaces. This same condition may be seen in persistent tobacco chewers, but there it is generally seen only in old men whereas among cigar-

makers, young girls after only a few years' work will present the phenomenon in well marked form.

Caries of the teeth was found in 39.2% of all the tobacco workers included in this study. Among the banders and packers the percentage was 49, yet these groups handle only the whole cigar and have no opportunity of getting the cigar in the mouth. This might suggest the idea, frequently stated by employers and superintendents, that tobacco acts as an antiseptic; but since we have found bacteria growing abundantly in our cultures from the atmosphere of tobacco rooms we are not inclined to favor this view. We have no explanation to offer, but believe the seemingly high percentage among all these workers not greater than would be found among these people generally, no matter what the occupation.

By insufficiency of the teeth I refer in this report to those having five or more teeth missing, having taken this as an arbitary standard. It is surprising that the percentage is so large as 17.7% when it is remembered that a very large part of these people are under 35 years of age. It is, however, in keeping with the amount of caries found and with the fact that when people of this class have a toothache they are much more likely to have the tooth extracted than to have it properly treated.

I will not take up other findings in detail because I do not believe that they have important relations to the question in hand, except those related to the lungs. My figures for slight apical infiltration, 13.7%, should not be taken as synonomous with tuberculosis. Some of these cases may be tuberculous, but I have not been able to prove any one of them to be. I have included five of them in my table of diagnoses as suspicious. None of these five had any sputum for examination and in no case could I get a chest X-ray, but their symptoms were quite in keeping with very early pulmonary tuberculosis. The others in this group had only vague physical signs without any other thing to suggest active trouble of any kind. Some may have old tubercular lesions of small extent and now definitely walled off and of no significance, while in other instances the infiltration may be only an exaggerated normal condition, or it is still possible that it may be due to some other cause. In six instances the apical signs were so definite as to justify us in concluding that they indicated old tubercular lesions which were at the time of examination entirely quiescent. The packers and banders showed their proportionate number of these pulmonary cases, 14.3% against 15.2%.

The blood pressure studies, also shown in table 2, reveal a normal average in each instance. There is some reference in the Italian literature to a rise of blood pressure among tobacco workers, but this study does not bear that out.

Table 3 gives a summary, in the order of frequency, of the diagnoses entered upon our history cards for these workers. Some of them, such as headache, backache, constipation, etc., are only symptoms, and they are given only where in our limited study of each individual it was impossible to get at the etiological diagnosis. More exhaustive study should eliminate all these diagnoses.

TABLE 3.—Diagnoses of 400 Tobacco Workers in the Order of Their Frequency.

	Total.	Per cent.	Cigar makers.	Packers.	Dryers.	Casers.	Cigar makers.	Packers.	Strippers.	Banders.
Constipation,	77	19.2	5	.....	1	2	49	11	8	1
Normal,	49	12.2	7	3	0	1	14	12	11	1
Headache,	45	11.2	4	0	1	0	21	4	4	11
Gastric neurosis,	28	7.	2	0	2	2	18	3	1	0
Neurasthenia,	17	4.2	2	1	.....	.....	11	2	1	.....
Hypertension, slight,	12	3.	.....	1	.....	.....	1	6	3	1
Pelvic inflamation,	12	3.	.....	.....	.....	.....	5	3	4	0
Secondary anemia,	10	2.5	.....	.....	.....	.....	6	1	3	0
Backache,	6	1.5	2	0	0	0	2	0	0	2
Conjunctivitis,	6	1.5	0	0	1	0	3	0	0	2
Inactive pulmonary tuberculosis,	6	1.5	1	1	1	0	2	0	1	0
Questionable active tuberculosis,	5	1.2	1	0	0	0	2	2	0	0
Vasomotor neurosis,	5	1.2	1	1	0	0	3	0	0	0
Chronic appendicitis,	4	1.	0	0	0	1	2	1	0	0
Chronic bronchitis,	4	1.	3	0	0	0	0	0	1	0
Eczema (2 on hands, 1 on abdomen),	4	1.0	1	0	0	0	3	0	0	0
Pregnancy,	5	0.7	.....	.....	.....	.....	2	1	0	0
Toxic goitre,	3	0.7	.....	.....	.....	.....	3	0	0	0
Early nephritis (?),	3	0.7	.....	.....	.....	.....	1	1	0	1
Brachial neuritis,	3	0.7	1	0	0	0	2	0	0	0
Acne vulgaris,	3	0.7	1	0	0	0	1	0	1	0
Blepharitis,	2	0.5	1	0	0	0	1	0	0	0
Bursa on left wrist,	2	0.5	.....	.....	.....	.....	2	0	0	0
Furunculosis,	2	0.5	0	0	11	0	1	0	0	0
Gastro-duodenal ulcer,	2	0.5	2	0	0	0	.....	.....	.....	.....
Bronchial asthma,	2	0.5	1	0	0	0	0	1	0	0
Cirrhosis of liver,	2	0.5	2	0	0	0	0	0	0	0
Sacro-iliac strain,	2	0.5	1	0	0	0	0	0	1	0
Urethral stricture,	2	0.5	2	0	0	0	.....	.....	.....	.....
Intestinal adhesions,	1	0.2	.....	.....	.....	.....	1	.....	.....	.....
Toxic arthritis,	1	0.2	.....	.....	.....	.....	.....	1	.....	.....
Cholelithiasis,	1	0.2	.....	.....	.....	.....	1	.....	.....	.....
Epididymitis,	1	0.2	1	.....	.....	.....	.....	.....	.....	.....
Cholazion, internal strabismus, and corneal scar, ...	*									
Angina pectoris,	1	0.2	1	.....	.....	.....	.....	.....	.....	.....
Hysteria,	1	0.2	.....	.....	.....	.....	.....	.....	1	.....
Frontal sinusitis,	1	0.2	.....	.....	.....	.....	.....	.....	.....	.....
Undescended testicle, varicocele, and systitis,	*									
Tracoma,	1	0.2	.....	1	.....	.....	.....	.....	.....	.....
Paresis of right external rectus,	1	0.2	.....	.....	.....	.....	1	.....	.....	.....

*One each.

It will be noted that constipation is the most frequent diagnosis. This can be largely explained by the fact that the employes work in a sitting posture, with the exception of the dryers and the packers, and that they do not make use of their time off work to get a proper amount of exercise. We have no figures upon this, but the

impression is well founded upon innumerable statements by them. It was only in the rarest instances we found a worker who took any exercise aside from a little walking and some dancing. When they live comparatively close to their work they are still likely to take the trolley rather than walk. Another factor is the poor selection of their food. This our Social Service Worker has thought particularly noticeable among the Polish girls. The packers and banders suffer less in regard to constipation, 10.7% against a general average of 19.2% and against 25% for the cigarmakers. This may be explained by their standing at work and by their shorter hours, thus allowing them more time in the daylight for out door activities.

There were only 49,—12.2%, out of the 400 workers in whom a diagnosis of normal could be made. It should be explained that none with dental caries, insufficiency of teeth, diseased tonsils, or other like things was considered to be normal.

We have no explanation for the number of headaches, 11.2%, but suspect that a regulation of the factories with regard to temperature, moisture, and air movement would dissipate most of them. Others no doubt are dependent upon eye strain, and in support of this quite a number of girls told us of their headaches disappearing when they had their eyes refracted and glassed.

Similarly we believe that many of the gastric neuroses, nautasthenias, etc., may be aborted by regulations of the hygiene of the factories. Among the gastric neuroses I have included all those forms of indigestion for which I did not believe there was an organic cause. In view of this I feel that 7% is quite low, and that it distinctly opposes the idea advanced in the literature that tobacco in itself causes gastric troubles.

Eczema upon the hands of cigarmakers has been described and the two instances of this condition which we present are probably of this etiology. Also the three cases of brachial neuritis are interesting, and three similar cases were reported in the state of Massachusetts last year. These are suggestive of a strained position at work or they may be dependent upon some toxic absorption. They should be studied more closely. It will be noted that neither of these conditions manifested itself among the banders or packers.

Two cases of left wrist bursa are included in our tables and two other cases were seen. They were all in female cigarmakers. It seemed likely that these girls did not make their cigars in the proper manner, but a careful observation of them when they were unaware did not confirm this suspicion.

Backache was to be expected in some of the packers from their constant standing, but was not found. One bander did have what appeared to be a sacro-iliac strain.

This study of 400 tobacco workers has shown, then, no physical effects, aside possibly from two cases of eczema and three of brachial neuritis and some influence in the production of conjunctival and pharyngeal congestion, which are not common to this number of women generally or are explicable on the basis of faulty hygiene of the factories, correctable working habits, or inefficient personal hygiene.

In view of these general conclusions it seemed desirable to study further these additional factors, and Dr. Henry F. Smyth, now of our Clinic, and I have taken up a study of the hygiene of the factories. Although our work is only begun, and conclusions should not be drawn from our, as yet very limited results, I think you will be interested in the following tables:

Room.	Individual Determinations of Dust Particles per Cubic Foot.	Average.
Banding,	37,600— 23,400	30,500
Stripping,	44,200— 81,000	62,800
Packing,	29,600—104,400—84,000—52,400	67,600
Drying,	136,800	136,800
Casing,	164,200	164,200
Cigar making,	304,400—131,600	218,000
Stock,	123,400—346,600	235,000

These dust determinations have been made by means of a dust collecting apparatus recently perfected by the New York State Ventilation Commission. The dust from 200 cu. ft. of air is collected at the respiration level and the number of particles estimated per cubic foot. It will be seen that the banding room had the lowest number of particles and the packing room was next in order with the exception of the stripping room.

We have also made a few determinations of the ammonia content of some of the rooms, and have found the banding room lowest and the packing room in an intermediate position. Further determinations may alter these positions. The banding room averaged 3.7 mg. per cubic meter of air, the packing room 7.4 mg., and the stock room 10.5 mg. We are studying the nicotine content also.

We have found as yet no temperature below 75 F. and the relative moisture has ranged between 45 and 50%. The tobacco men are extremely anxious to keep the air moist and have installed in many rooms humidors. In spite of this we have found the rooms too dry, and curiously enough they could increase their relative humidity by reducing the temperature and at the same time make their rooms much more desirable to the occupants from both points of view. Also there is too much stagnation of air. Some employes complain

of the humidors, but in view of our low readings for relative moisture, we are inclined to think that it is the stagnation of the air rather than the excessive moisture that is giving rise to these complaints. Ventilation is poor generally; the windows are almost constantly closed and the cracks are frequently stuffed with old rags and paper. The light is fairly good throughout. The packers use only natural light, and for this reason they cannot work in the late afternoons and when for other reasons the light is poor.

These facts regarding the hygiene of the factories are in keeping with our explantion of some of the diseased conditions found. I think that if we could study the personal hygiene of the workers in as thorough a way (and we have some facts of this nature which we are not attempting to present herein) we would find there a second important factor in the production of disease. Finally, the habit of the cigarmakers in "biting out" the ends of the cigars is not only objectionable on account of the possibility of disease transmission but also because it is uncleanly and produces an abnormal condition (dental wearing) in the workers themselves. With these three factors eliminated we believe the cigar industry to be devoid of any serious detrimental influences upon the health of the workers, and we believe this to be especially true in the banding and packing departments. The banders have the distinct advantage of working in the cleanest rooms. The packers are favored by the shorter hours, their good wages, and to some extent by their standing position (thus decreasing the chances of constipation). Both groups work with made cigars and so have no opportunity of getting the tobacco into the mouth and stomach.

If these statements will hold for workers over 16 years of age we see no reason why they should not for those under 16 as well; and we think that your decision to allow or not to allow the latter to work in the cigar industry should depend upon these considerations which determine for you whether or not children should take up any occupation before that age.

Very respectfully submitted,

(Signed) GRIER MILLER.

1805 Pine St., Philadelphia.
March 3rd, 1917.

Museum of Occupational Disease Clinic.

The American Museum of Safety of New York City, at the request of Dr. Francis D. Patterson, Chief of the Division of Hygiene and Engineering of the Department of Labor and Industry, placed at the disposal of the Occupational Disease Clinic of the University of Pennsylvania an exhibit of models and photographs covering the

subject of occupational diseases. This exhibit comprises the most complete collection of such data in America.

While it is divided into four general groups covering chemical, bacterial and general causes of trade diseases and miscellaneous models there are also more than one hundred and fifty bottles to supplement the chemical group, containing various chemicals which are recognized as presenting hazards through their use. Descriptive charts accompany this supplementary material. Supplementing the entire exhibit are bottles containing metallic, vegetable, mineral, animal and mixed fibre dusts with microscopic photographs of these materials. The entire exhibit is as comprehensive as it is possible to make it and covers, in great detail, the broad subject of occupational diseases.

A detailed list of the materials loaned by the American Museum of Safety for exhibit at the clinic is as follows:—

Chemical Causes of Trade Diseases:—

Eczema from alcohol—Furniture polisher.
Eczema from tar—Roofer.
Eczema from bronze—Bronze worker.
Dry eczema—Lacquer worker.
Eczema from formalin—Laboratory worker.
Model of acid burn.
Gangrene from carbolic acid—Laboratory worker.
Burn from hydrochloric acid—Laboratory worker.
2—Models of acid burn—Platinoxyd—Factory worker.
Acid burn—Second and third degree—Due to explosion.
Tar acne—Tar worker.
Chlorine acne—Chlorine worker.
Silver staining—Silver polisher.
Stomatitis mercurialis—Felt hat worker.
4 Jaw bones—Phosphorus necrosis—Match worker.
2 Casts lead paralysis—Lead worker.
Quicksilver erythema—Chemical worker.
Nickel itch—Nickel polisher.
Bakers' itch.
Spleen poisoning from aniline (actual specimen).
Kidney poisoning from aniline (actual specimen).
Liver poisoning from aniline (actual specimen).
Lung poisoning from aniline (actual specimen).

Bacterial Causes of Trade Diseases:—

Anthrax carbunkle—Tanner.
Anthrax intestine—Tanner.
Anthrax—Tanner.
Glanders—Hostler.
Deep ringworm—Wool sorter.
Syphilis—Primary stage.
Syphilis—Primary stage—Glass blower.
Syphilis—Primary stage—Barber.
3—Models of tubercular warts of the skin.

Ringworm of the hand—Barber.
Actinomykosis—Farmer.
Blood Poisoning from unclean wound.

General Causes of Trade Diseases:—
Roentgen burn.
Actual specimen of normal lung.
Actual specimen of city dwellers' lung.
Actual specimen of coal miners' lung.
Actual specimen of stone cutters' lung.
2—Models of coal miners' lung.
1—Model of iron workers' lung.
1—Model of coal handlers' hand.
1—Model of miners' hand.
1—Model of stone breakers' lung.
Injury to eye from foreign body.
Abscess between fingers.
Milkers' callous.
Gout—Hand.
Varicose veins.

Miscellaneous:—
150 bottles containing metallic, vegetable, mineral and animal and mixed fibre dusts.
150 Microscopic photographs of above dusts.
150 bottles containing chemicals likely to give rise to some occupational disease. Descriptive cards for same.
Chart of industrial poisons.
Chart of harmful dusts prepared by Dr. F. I. Hoffman.

Clinic for Public Service.

The Occupational and Industrial Disease Clinic was established at the University Hospital to be of maximum service to the public. Any employe believing that he is suffering from disease peculiar to his work will receive attention without cost by presenting himself at the clinic. Employers and employes are urged to avail themselves of the exceptional facilities offered by this new activity for investigation of trade diseases.

"FOR THE CONVENIENCE OF WORKMEN AND FOR SAFEGUARDING THEIR HEALTH."

From time immemorial there has always been a difference of opinion as to whether or not man is influenced more by heredity or environment, but there seems however, to be a generally accepted opinion that environment has much to do in influencing a person's health, contentment and happiness. So much so is this idea prevailing among all progressive employers today that they are doing everything they can find advisable to do to make the conditions under which their employes work most agreeable. Not only is it a matter of pride to have ideal conditions but it is also one of humanity and one of efficiency.

If it is necessary for a person to spend one-third of his life in a certain room or certain building it should most surely be a place which would be healthful. If this place should happen to be the work room it most certainly should be true in this case, for how could a person be expected to give the best that is in him if his surroundings are unhealthful or are such as to make him uncomfortable or ill at ease.

Sufficient well directed light, fresh air and good drinking water are absolute essentials, as are also sanitary conditions. A large number of factory managements go still farther and have installed rest and recreation periods, lunch rooms, landscape gardening around the factory buildings, athletic contests, picnics or excursions and many more innovations. Such things improve conditions, increase the cordiality between employer and employe and, if they are given in connection with sufficient wages, will make contented workers and establish an esprit de corps which is invaluable.

Some people look at these things very skeptically and say with a knowing shake of their head, "Oh! what's the use? It isn't appreciated." If they will take the trouble to go to such managements and ask them if they are worth while they will invariably be told that it has been found most advantageous to do such things. The only possible exception to the rule is a management who has taken up such things in a half hearted manner and naturally if they do not display much interest in it, neither will the employes. This has been very well illustrated in the case of safety work. Some managements employ safety men and apparently are spending large sums of money in the promotion of safety. The safety men are exceedingly loyal in their work but don't receive the moral support of the men higher up. When they hold safety meetings the latter

This is the entrance to the building erected for the convenience and health of the employes of the American Pulley Company,, Philadelphia.

are conspicuous by their absence. How can employes be expected to take an interest in such meetings if the head officials do not?

It is very easy to determine the attitude of a management on affairs of this kind. If the yards or workrooms of the plant are littered or scattered over with waste material, or if material is allowed to lie around in a haphazard manner without any semblance of order one can feel sure that while there may be a pretense of being interested in the health and safety of the employes yet the fundamental principals are being neglected.

On the other hand where everything is in good order and sanitary conditions prevail the psychological effect of such conditions cannot help but make the workman believe that the company is interested in his own personal welfare and he cannot help but respond to this kind of treatment.

Recently the American Pulley Company of Philadlphia has opened for use a new building designed for the comfort and convenience; and for safeguarding the health of the men employed in the works. It occupies a central position and is easily reached from the entrance to the works used by the factory hands.

The building is 100 feet in length, 36 feet wide at the front end for 60 feet back, after which one side wall tapers so as to leave a width of 21 feet at the rear end. The whole structure is of brick and concrete with metal window frames and sash, there being no combustible material used. The building stands by itself, so that light and air enter from all sides. Besides the first and second floors there is a roofed over space 36 feet by 20 feet at the front end, making a third floor room for bad weather use. West of this room, or to the rear, there is a flat roof with parapet and railing where men can sit in good weather during the luncheon hour.

On the first floor there is the health officer's room where his records are kept and reports prepared. This is also a waiting room for men to be examined. They pass to a dressing room and shower bath and thence to the examination and first aid room which is long enough to permit a proper examination of the eyes. All men taken on are examined by a physician in attendance before employment.

On the same floor, but approached from a different entrance are the water closets and urinals. The floors are of the Terraza type and are well drained for convenience in hosing down. An opportunity is provided for hand washing after using the fixtures.

The second floor is devoted to lockers of steel, wash basins and shower baths, and the third or roof floor is as described above.

All the fittings throughout are the best that could be procured. Hot and cold water is supplied to basins and showers.

A caretaker is on hand at all times and thorough cleanliness is insisted upon.

The accompanying photographs which are shown herewith speak for themselves. Can anyone imagine that employes will not enter into the spirit of Good Health, Safety, Efficiency and Contentment if conditions are maintained at all times in that factory as shown by these photographs.

THE BUREAU OF INSPECTION DURING APRIL, 1917, IN ADDITION TO MAKING INSPECTIONS FOR SAFEGUARDING OF MACHINERY, ENFORCING WOMEN'S AND CHILD LABOR LAWS, ADVANCED SAFETY IN BUILDING CONSTRUCTION, IN BOILER OPERATION AND BY INVESTIGATION OF ACCIDENTS.

The Divisions of Accident Investigation, Building Inspection and Boiler Inspection were especially active during the month of April, supplementing the general work of the field inspectors who made inspections for safeguards, investigated workmen's compensation cases, enforced women's and child labor laws and other legislation authority for the enforcement of which is vested in the Department.

In all sections of the State, field inspectors made rigid investigations of conditions surrounding fatal and serious accidents and formulated methods to prevent the recurrence of similar casualties.

In the Division of Building Inspection, 33 fire escapes were ordered during the month and 64 plans were approved for 36 fire escapes; 9 theatres; 18 buildings and one toilet and washroom. There were 71 new plans received at the Division during the month and 30 revised plans.

In the Division of Boiler Inspection reports were received of 3,012 inspections during the month. These inspection reports were carefully checked. The reports of some of the accidents investigated and the work of the Divisions of Building Inspection and Boiler Inspection are given in more detail in the following pages:

Division of Accident Investigation

Safety Belts Necessary in Accident Prevention.—Safety belts with life lines attached should be provided for window cleaners and for men working on smoke stacks, on electric transmission lines or en-

gaged in other similar work at a considerable height from the ground.

The following is an account of an accident in which a life was lost because a belt had not been provided and used.

A man, with two other workers, was helping on the cleaning door platform around the top of an H. blast furnace stove about one hundred feet above the ground. The men had been ordered to remove a section of the platform in order to change the position of a boom, and when removing a floor beam, the unfortunate man fell to the ground, striking a steam pipe in his descent.

* * *

Removal of Guards.—Guards may be made removable in order to facilitate inspection, oiling or repairing of the various parts of a machine, but guards should never be taken off except for good and sufficient reasons, and then only by the foreman's special order, when the machinery is stopped. Machines from which the guards have for any reason been removed should not be operated until guards have been replaced.

Guards are often removed by employes, either because they think the work can be better done or more expeditiously done without them. This practice should be strictly prohibited; and those in charge should be on the alert at all times to detect such offences in order that accidents may be averted.

Recently a young woman, employed in a worsted mill was seriously injured when her arm was caught in the cogs of the machnie she was operating. The cogs had been provided with a guard, but it had been removed, and she continued to operate the machine for a period of at least four weeks without the guard. She attempted one day to operate the belt shifter with her hand from the inside of the machine rather than to move around the machine and use the handle of the shifter, and the result was that her sleeve caught in the cogs and before the machine could be stopped, her arm was drawn in between the teeth, and the flesh between the elbow and wrist was terribly cut and mangled.

* * *

Circus Stunt.—An electrician, employed by a steel company, was putting up telephone cable. He was to climb the poles and place the cable over the lower cross arm while other workmen handled the slack.

When work began the lineman told his fellow workmen that he was going to walk the messenger wire between the poles. This messenger wire is located about twenty feet above the ground. He was told to "play the game safe," and his attention was also called to the high tension wire above the messenger wire. He apparently agreed

to "play safe" and started to climb the poles, putting up the cable, descending to the ground, and walking to the next pole. However, after getting over a hill, out of sight of the other workmen, instead of coming down each pole after placing the cable, he attempted to walk the messenger wire to the next pole, a distance of forty-five feet. Having advanced to about the middle of the span, he reached up to preserve his balance, and caught hold of the high tension wire and was electrocuted, falling on a car of bricks below.

Although the man was an experienced lineman, his act was one of sheer recklessness, for he not only exposed himself to the danger of death by falling, but also by electrocution.

Horse play or circus stunts should be eliminated, for invariably they result seriously, and frequently fatally, as in the above case. Play safe at all times and in all places.

* * *

Neglect of Wound.—While an employe was operating a lathe, in a car manufacturing plant, a steel shaving from a tool cut the second finger on his right hand. He failed to report the injury and continued to work for three days, when blood poisoning developed. When the attention of the safety engineer was called to the accident, the injured man refused to submit to treatment at the plant as he had been advised by his physician to do, but insisted upon going to his home several miles distant from the plant where he had neither the care of the physician or the oversight of his employer. He died of septic pneumonia one month from the date of the injury.

No injury however slight or seemingly trivial should be neglected, but on the contrary should be reported and treated immediately.

* * *

Boyish Pranks.—Recently in a manufacturing plant where ammunition was being made, the night watchman was overcome by smoke and gases, caused by a fire started through pranks of two of the young employes. The fire was caused by the upsetting of an open can of gasoline, which was used for cleansing a small tool that was dipped in resin each time a shell was completed. While the two boys were playing catch with a small wooden box, a bad throw caused the box to strike the can, upsetting it, and spilling the contents on a nearby burning gasoline torch. In an instant the building was aflame with the above stated results.

* * *

Failure to Display Danger Flags.—Many serious and fatal accidents are caused by engines or drafts of cars suddenly bumping into other cars under or around which men are working, and the following is an account of such an accident occurring recently in the yards of a bridge manufacturing company.

A crane operator, engaged in unloading coal from a car, went under the car, to adjust the chain on the hopper doors, contrary to the company's orders; the company regulation being that no one should work under or about cars until a signal had been placed at each end of the car or draft. An engine coming down the track bumped the car, and moved it forward dragging the workman over the ties and injuring him so badly that death soon followed.

The rule of this company for its private railroad yard is as follows:—

"A blue flag by day and a blue light by night, displayed at one or both ends of an engine, car or train, indicates that workmen are under or about it. When thus protected, it must not be coupled to or moved. Car inspectors and other workmen must display the blue signals before going to work under or about any engine, car or train, and the same workmen only are authorized to remove them. Other engines or cars must not be placed on the same track so as to intercept the view of the blue signals." If this rule is adopted and rigidly enforced and obeyed, accidents from the above cause will be greatly reduced, if not wholly eliminated.

* * *

Gross Carelessness.—The disposition of employes to become careless and indifferent to danger is illustrated by the following report, and emphasizes the fact that we should always "practice what we preach," as the man involved in this particular accident was chairman of the safety committee and had without doubt preached carefulness to his men.

He had occasion to go upon a crane to examine the brake bands. He selected a one-inch board that was partly burned, and placed it across the bridge of the crane, then walked out on it. The board broke and he fell to the ground, fracturing both arms, injuring his right side and hip so severely that death resulted three weeks later. The board he used was not provided for this purpose, and instead of using care in getting a good substantial board, he took a board that was nearby, regardless of its condition, and he paid the penalty for his carelesseness with his life.

* * *

Locomotive Crane.—The practice by workmen of riding on locomotive cranes, in places other than the cab, has resulted in several fatal accidents, and strict rules should be adopted and enforced prohibiting this practice.

The following are accounts of two fatal accidents of recent date due to this cause.

In the one case, a man, contrary to orders, was riding on the deck of a crane car. His duties required that he run with the crane

to throw the switches. The cab and boom of the crane were swung at an angle to the track and the man was standing at the rear end of the cab. The engineer in the operations of the crane, swung it around parallel with the track, and by such a movement, the workman would have been knocked off the car by the cab as it came into position, parallel to the track. He attempted to climb up the ladder on the side of the cab, slipped and fell on the crane car and was caught in the circle between the bottom of the cab and the deck of the car, a space of about eight inches. The accident resulted in his death.

This fatality was due to disregard of orders, negligence and carelessness.

In the second case, the crane operator, who is officially in charge of the crane, had instructed the fireman to go ahead and throw the switch. Instead of walking to the switch, a distance of about one hundred and fifty yards, the fireman stepped on the stirrup at the corner of the crane, evidently intending to ride to a point near the switch. In this position the crane operator could not see him and was not aware that he was riding upon the truck. As the operator swung the boom around, the rear end of the crane proper struck the man from behind, crushing him against the truck of the crane.

* * *

Curiosity.—Unable to restrain his curiosity in a moment of danger, an employe of a tin plate company paid the ultimate cost. It appears that he was assisting to remove a length of shafting supported on bearings, which were resting on the bottom member of the roof truss, twenty-four feet from the ground. A block and tackle had been fastened near one end of the shaft preparatory to its lowering, and although the man had, by his foreman's orders, retired to a point of safety, he later returned to the vicinity of the operation. The shaft, after being pushed out of the bearing, swung around and hit the man with such force as to knock him off the platform and cause him to fall to the ground with the result that his skull was fractured.

* * *

Smoking.—An employe of a pipe and tubing company, after lighting his pipe, dropped the match on his apron which was saturated with oil, and it immediately burst into flames. Before any of his fellow workers could aid him, he ran through the mill, and when he was finally overtaken, and the flames smothered with blankets, he was burned so badly that he died two days later.

* * *

Neglect to Open Valves.—An employe of a gasoline company was engaged in starting a gas engine, which operates the machinery of the plant, and although he had had several years' experience in

the operation of gas engines, he neglected to open the discharge valves. When he discovered the valves were not open, instead of stopping the machinery, he attempted to open the valve with his hand, but the pressure was too great. He sent a fellow employe for a wrench, but before the man returned, the cylinder exploded, tearing the engineer's right arm off at the elbow, causing his death nine hours lated.

* * *

Took a Chance.—An engineer employed by a wrought iron pipe manufacturing company was directed to make repairs to a conveyor drive.

Although there were no witnesses, a careful investigation of the circumstances indicated that the engineer entered the pit without being certain that the steam could not enter the cylinder of the engine, for after getting within the railing, he either stepped on the shaft or pulley, which threw him to the bottom of the pit, killing him instantly.

Although this company has strict rules prohibiting the oiling, adjusting or repairing of machinery in motion, this man "took a chance" and paid the penalty for his venture with his life.

As a warning to other employes against the violation of this rule, the company had the following cards printed and distributed to each of the men:

IT MAY BE YOU THE NEXT TIME!

* * * * lost his life. The Coroner's Report and our investigation show that HE TOOK A CHANCE. He intended to oil or repair MACHINERY IN MOTION. We do not sanction the wiping, oiling or repairing of machinery while in motion. We prohibit it as far as lies in our power. Learn your lesson from the above.

STOP THAT MACHINERY BEFORE OILING, CLEANING OR REPAIRING IT, and you will feel much better. Your family will appreciate it and so will we.

If you see someone taking a chance tell him and tell us. We will thank you if he doesn't. Take this card home and put it in a prominent place

IT MAY SAVE YOUR LIFE!

* * *

Rusty Nail.—While engaged in tearing down an old frame building, a laborer, who was employed to assist the janitor, steppped upon a rusty nail which was projecting from a board, and slightly punctured his foot. Although he was urged to go immediately to a physician and have the wound treated, he refused to go and continued to work.

The wound became infected, and ten days after the injury the man died from lockjaw.

* * *

Slight Injury.—An employe of a lumber company was using a hand power spiral drill in drilling a nail hole in a piece of hard wood molding. He was holding the point of the drill with his left hand and evidently released the spring too rapidly, which caused the drill to slip and pierce the third finger of his hand.

The injury was apparently very slight and very little or no attention was paid to it until three days later whn it bcame swollen and inflamed, resulting in death thirteen days after the injury was received.

* * *

Failure to Heed Sign.—Although the sign "keep off" had been placed upon the freight elevator, and in addition, the plant rules prohibited any employe from riding on this elevator, a young man disregarded both the sign and the order, and started to go up on the elevator. Apparently, he became excited when the elevator had reached a point about ten feet above the floor, and in some manner fell off the car. His skull was fractured and he died instantly.

* * *

Failure to Replace Guard.—A few days prior to the accident here recorded, an employe of a training school for boys, who was designated as general utility man on the pay roll, and held the position of general foreman in charge of oil wells, gas wells, water wells, cold storage plant, electricity and plumbing, removed a direct connected water pump from one pump house and installed it in another. When he installed the machine in its new location, he neglected to replace the guard over the gears on the pump. On the morning of the accident, he went to the pump house, as was his custom, when coming on duty, to see that the pump was working properly. Although he was in the building alone, it is evident that he went to the rear of the pump to make some adjustment. In some manner, his overalls must have caught in the gears, which drew him down and crushed his side. He was dead when found about a half hour from the time he was supposed to have entered the pump house.

* * *

Injury.—An employe of the motive power department of a railroad company was assisting the hostler in removing a car that was on the turn table, and when this work was done, he stepped on the turn table to ride around to the stall to look at the water gauge on some locomotives, as this was his regular employment. Before the turn table came to a stop, he attempted to step off, but he fell and his left leg was caught between the edge of the table and the frog on the track leading to one of the stalls in the round house. His leg was lacerated so severely that death followed the next day.

* * *

Projecting Set Screw.—A foreman of a gang of men, who was engaged in removing a gallery or platform preparatory to making repairs to a building, was removing a panel of a belt guard, and while endeavoring to wrench a nail loose, his coat caught on the set screw of the pulley, and he was whirled around the shaft with such force that both legs were torn off below the knee and almost every bone in his body was broken.

* * *

Neglect of Wounds.—An employe of the Board of Public Education of one of the cities of this State was engaged in installing a rain conductor with the use of a hoisting pulley to raise the conductor. The rope broke and threw the man off his balance, and in order to save himself from falling, he stepped backward upon a projecting nail which penetrated the little toe. The injured man did not report for treatment until the wound had become infected, and after he was admitted to the hospital, tetanus developed, and he died the next day.

* * *

Carelessness.—A fireman of a traction engine had been in the habit of placing a board over the smoke stack in order to keep up the fire during the night. On this particular morning, he climbed up on the fly wheel and endeavored to remove the board. A sudden movement of the wheel threw him off, and in his descent, the back of his head struck on the edge of the water tank, crushing his skull and causing instant death.

* * *

Carelessness.—While a motor inspector, who was employed by a steel company, was searching for a pair of pliers, he went beneath the rolls of the transfer table and carelessly raised his head up between two rolls just as an ingot came down the table. The ingot struck him on the left side of the head, killing him instantly.

* * *

Carelessness.—While working in an ash pit "breaking up the fire," an employe of an iron company was struck on the head by a piece of slate.

This ash pit is about two feet below the level of the furnace and is separated from the furnace and coal bin by a sheet iron partition which is about four feet high.

At the time the man was "breaking up fire," coal was being unloaded into the bin. There was a small piece of slate in the coal, which the puddler picked up and threw over the sheet iron partition, into the ash pit, striking the workman on the temple. The injury was not considered serious, and the man continued to work for some time when suddenly he became ill, and he died about four hours

after the accident happened. It was then discovered that his skull had been fractured.

Division of Building Inspection, April, 1917.

In summing up the work of the Division of Building Inspection during the month of April, it is evidenced that the submission of plans to the Department continues with unabated regularity and a percentage of the plans, upon first presentation, have been rejected; first, on account of lack of details; and second, in a great many cases, either for the reason that unobstructed passageways to fire escapes were not shown or that exits and stairways from buildings were insufficient.

Many buildings present a condition where the terminal of a fire escape is in a court which has no outlet to the streets. The inspectors always endeavor to relocate such a fire escape placing it on the street, alley or yard side of the building. This, in a great many cases cannot be accomplished, and it has at times been necessary to arrange for a fire proof passageway through the ground floor of the building to the street. It is advisable to partition this passageway off from ground floor rooms with brick, tile, concrete or metal lath and cement plaster.

A rather interesting proposition for a moving picture theatre building presents itself in cities and towns where the grade is exceedingly steep. The first floor at the front of the building is the basement floor at the rear of the building. The solution of installing a theatre in such a building is, if at all feasible, to take advantage of the grade with the entrance at the high point and the screen end of the building at the low point. In this manner, it is possible to secure side exits at the ground level; otherwise, it would be impossible to secure side exits or exits at the high point of the building without the use of steps.

According to the present requirements of the Industrial Board of Pennsylvania, no steps are allowed at the exits or entrances of any theatres other than a step of eight-inch rise to keep out weather conditions.

The following tabulation shows buildings which have been afforded protection in the several sections of the State during the past month through the efforts of this division.

Plans Approved During Month of April, 1917.

FIRE ESCAPES.

Town.	Building.	Contractor or Architect.	Owner.
Apollo,	Hall,	Gary-Klssane Company,	I. O. O. F.
Cresco,	Hotel,	Scranton Iron & Steel Co.,	Chas. Langfield.
Ardmore,	Y. M. C. A.,	H. L. Reinhold,	W. P. Able, Pres.
Reading,	Apartments,	W. F. Remppls Co.,	C. W. Kissinger.
East Stroudsburg,	Hotel,	Scranton Iron & Steel Co.,	M. L. Bach.
Easton,	Apartments,	Ed. Paul Richter,	I. B. Hochman.
Spring Mills,	Lodge Hall,	Geo. W. Anne & Son,	John Smith & Bro.
Delaware W. Gap,	Hotel,	Cameron Engineering Co.,	J. H. Graves.
South Bethlehem,	Apartments,	W. F. Remppls Co.,	C. Weirbach.
South Bethlehem,	Apartments,	W. F. Remppls Co.,	Alex. Graham.
Nanticoke,	Office Building,	Mechanical Department, S. C. Co.	Susquehanna Coal Co.
Allentown,	Store and Apartments	Ruhe and Lange,	G. C. Aschbach.
Kingston,	Seminary,	Scranton Iron & Steel Co.,	Wyoming Seminary.
Mahanoy City,	School,	Kemper Construction Co.,	Mahanoy School Board.
Pottsville,	Apartments,	W. F. Remppis Co.,	M. Duna.
Palmyra,	Factory,	Geo. W. Anue & Son,	Landis Shoe Co.
Easton,	Store and Apartments	E. H. Wenzelberger,	Mr. Rosenbaum.
York,	Lodge Hall,	Geo. W. Anne & Son,	L. O. O. M.
Reading,	Apartments,	Roeper Hoist Co.,	H. P. Roeper.
Pottsville,	Barracks,	W. F. Remppis Co.,	State Constabulary.
Sayre,	Apartments,	Letts & Austin,	Mr. Burgett.
Wilmerding,	Store and Apartments	Keystone Ornamental Iron Works.	F. A. Faller.
Meadville,	Lodge Hall,	Hartman & Judd,	N. W. Securities Co.
Carrick,	School,	E. L. Rieseck,	Carrick School Board.
Dickson City,	Apartments and hall,	Scranton Iron & Steel Co.,	I. O. O. F. Assn.
Stroudsburg,	Hotel,	Scranton Iron & Steel Co.,	M. L. Merwin.
Tobyhanna,	Hotel,	Scranton Iron & Steel Co.,	Tobyhanna House.
Lewistown,	Apartments,	Potts Manufacturing Co.,	Joseph Dreese.
Harrisburg,	Department Store,	Potts Manufacturing Co.,	Souters' Department Store.
Lehanon,	Office Building,	Geo. W. Anne & Son,	American Iron & Steel.
Eagles Mere,	Hotel,	Harris and Richards,	William Woods, Mgr.
Point Marion,	Hall and apartment,	Taylor & Dean,	Mrs. Francis Conn.
Johnstown,	Factory,	Geo. J. Griffith,	Geo. W. Swank.
Johnstown,	Apartments,	Geo. J. Griffith,	Henry Saly.
Sayre,	Bank and Lodge Hall,	Letts & Austin,	National Bank of Sayre.
Sayre,	Apartments,	Letts & Austin,	Sayre Land Co.

THEATRES.

Belle Vernon,	M. P. T.,	J. C. Brenton,	Jeffire Marina.
Blairsville,	M. P. T.,	H. C. Lehman,	United Business Men's Association.
Connellsville,	Theatre,	Henderson, J. H.,	Trimble and Twerffs.
New Bethlehem,	M. P. T.,	Thomas F. Williams,	A. A. Stewart.
Hyndman,	M. P. T.,	W. A. Soloman,	B. H. Sheirer.
Shamokin,	M. P. T.,	W. H. Lee,	Geo. J. Higgins & Son.
Mansfield,	M. P. T.,		W. A. McCausland.
Mt. Oliver,	M. P. T.,	August F. Klein,	James Wilkinson.
Butler,	Theatre,	J. W. Ketterer,	Geo. Gepeddis.

BUILDINGS.

Shippensburg,	Factory,	C. A. Heller,	Thrush and Stough.
Wilkes-Barre,	Temple,	Richmond and Kemp,	Masonic Temple.
Reading,	Apartments,	H. G. Mohn,	Walter Mast.
Red Lion,	Factory,	Trust Concrete Steel Co.,	Red Lion Cabinet Co.
Johnstown,	Apartments,		Geo. Wild.
South Bethlehem,	Tenement,	R. H. C.,	Samuel Repsher.
Bristol,	Factory and Office,	Wager-Fisher,	Rohm and Haas.
Bristol,	Mfg. Building,	Wager-Fisher,	Rohm and Haas.
Wilkes-Barre,	Store and Apartments	Geo. F. Schroeder,	Catherine W. Mayock.
Reading,	Apartments,	H. G. Mohn,	Fred Hodges.
Reading,	Apartments,	Calvin J. Young,	Dr. Geo. K. Levan.
Newmanstown,	School,	Calvin J. Young,	Mill Creek Twp. School Board.
Clearfield,	Court House,	W. H. Overdorf,	County Commissioners.
Reading,	Factory,	B. F. Groff,	F. S. Wertz & Son.
Reading,	Wholesale Building,	Daniel H. Hunter,	Swift & Co.
Allentown,	Hospital,	Lewis H. Gile,	Sacred Heart Hospital.
Mahanoy City,	Factory,	Shamokin Lumber and Manufacturing Co.	Maurice Janowitz.
Reading,	Apartment,	A. A. Heilman,	Becker & Redding.

TOILETS AND WASH ROOMS.

Dunmore,	Locker-Room,	Eng. of B. and B.,	Erle R. R. Co.

SUMMARY.

Fire Escapes,	36
Theatres,	9
Buildings,	18
Toilets and wash rooms,	1
Total,	64
New Plans Received During Month of April,	71
Revised Plans Received During Month of April,	30
Total,	101

FIRE ESCAPES ORDERED DURING APRIL, 1917.

Inspector.	*Town.*	*Owner.*
G. W. Meyers,	Lock Haven,	Lock Haven Express Publishing Co.
James Barry,	Springdale,	American Glue Co., John A. Stevenson.
W. T. Simpson,	Carbondale,	Carbondale Bottling Co., David Davis.
W. P. Shoemaker,	Waverly, N. Y.,	So. Waverly School Board, E. C. Ropp.
W. P. Shoemaker,	Towanda,	W. E. Lane.
W. P. Shoemaker,	Towanda,	P. S. Sickler.
W. P. Shoemaker,	Towanda,	John S. Mingos.
W. P. Shoemaker,	Towanda,	Bailey Block, William Little, Agt.
W. P. Shoemaker,	Towanda,	Kaufman Building, M. Kaufman.
W. P. Shoemaker,	Towanda,	Thomas Walsh.
W. P. Shoemaker,	Towanda,	424 Main Street, B. Loewus.
J. G. Boyce,	Punxsutawney,	Hotel, Messrs. Clover & Edelblute.
James McCann,	Altoona,	Elias G. Burket.
M. J. Gibney,	Wernersville,	Grand View Sanatorium.
Frank L. Diehm,	Denver,	Halpern & Walter.
W. P. Shoemaker,	Towanda,	L. J. Sheehan, Bridge Street.
W. P. Shoemaker,	Towanda,	Morgan L. Kaufman, Mears Building, Scranton.
M. J. Gibney,	Walters Park,	Walters Park Sanatorium Co.
M. J. Gibney,	Reading,	Cohen Brothers, J. L. Cohen.
James S. Darr,	Connellsville,	J. O. of Odd Fellows Temple, John Wilder.
James McCann,	Johnstown,	George B. Glenn.
J. G. Boyce,	Philipsburg,	Mrs. Sadie Davis.
James McCann,	Tyrone,	Wilson Chemical Co.
W. G. Fisher,	Mt. Carmel,	H. A. Bird.
J. G. Boyce,	Punxsutawney,	Peerless Shoe Co., W. A. Dick, Agt.
W. T. Simpson,	Jessup,	School Board, Winton Borough.
W. T. Simpson,	Jessup,	School Board, Annex to Franklin School Bldg.
W. T. Simpson,	Throop,	Throop Silk Co.
W. P. Shoemaker,	Towanda,	John W. Codding, Agt.
W. P. Shoemaker,	Towanda,	Mantua Hook and Ladder Co.
W. P. Shoemaker,	Towanda,	St. Agnes Convent.
W. P. Shoemaker,	Towanda,	M. L. McMahon.
Frank L. Diehm,	Lancaster,	Slaymaker Building.

Division of Boiler Inspection

The total number of boiler inspections, coming under the jurisdiction of the Department of Labor and Industry, during April, was 3012. The number of condemned boilers was twelve, although a number of serious defects in other boilers were discovered, and immediate steps were taken for elimination of these faults. Minor defects were numerous, and the Department Inspectors were active in advising operators in the safe and proper care and management of boiler plants.

The following is the summary of the work of the boiler division during April.

Total inspections reported to Division,	3012
Internal,	1563
External,	1426
Internal corrosions, serious,	29
Internal corrosions, minor,	204
External corrosions, serious,	38
External corrosions, minor,	87
Pitting, serious,	31
Pitting, minor,	263
Grooving, serious,	16
Grooving, minor,	35
Defective tube ends, minor,	228
Defective tube ends, dangerous,	16
Defective furnaces, minor,	137
Defective furnaces, dangerous,	15
Fractures, minor,	3
Defective water gauges, serious,	24
Defective water gauges, minor,	105
Defective safety valves, serious,	12
Defective safety valves, minor,	66
Defective pressure gauges, minor,	55
Defective pressure gauges, serious,	10
Broken stays,	172
Bulges,	151
Unclassified defects,	1186
Condemned boilers,	12
State inspections,	333
Manufacturers' data reports,	130
Casualty companies' reports,	2269
Serious defects reported eliminated,	116

BUREAUS OF STATISTICS AND INFORMATION AND WORKMEN'S COMPENSATION SHOW THAT 1,032 WORKERS WERE KILLED DURING THE FIRST FOUR MONTHS OF 1917 AND 82,044 OTHER WORKERS WERE INJURED. DURING THE SAME PERIOD COMPENSATION AMOUNTING TO $1,529,932.55 HAS BEEN AWARDED TO DEPENDENTS OF WORKERS KILLED AND $816,159.01 HAS BEEN PAID TO WORKERS DISABLED.

During the first four months of 1917 workmen's compensation amounting to $1,529,932.55 was awarded to dependents of workers killed while $816,159.01 was paid to workers injured in industry and disabled for more than fourteen days. Of the total amount of fatality compensation, to be paid over periods of time up to sixteen years, there has been $163,593.21 paid during the first four months of this year. In other words from January 1, 1917 to May 1, 1917 workmen's compensation payments and awards amount to $2,346,091.56.

The record of the Compensation Bureau for the month of April is indicated in the following table:

REPORT OF WORKMEN'S COMPENSATION BUREAU FOR APRIL, 1917.

Accident reports received:	Fatal.	Total.
January,	232	21,839
February,	227	19,395
March,	291	23,328
April,	282	18,514
Totals,	1,032	83,076

Agreements approved:	Fatal.	Total.
January,	136	6,890
February,	142	5,683
March,	154	7,509
April,	332	6,950
Totals,	764	27,032

Compensation Awarded and Paid:	Fatality Awarded.	Fatality Paid.	Disability Paid.
January,	$342,750 56	$41,867 89	$217,511 60
February,	387,795 46	25,338 34	174,132 22
March,	410,168 48	29,215 85	209,213 80
April,	389,218 05	67,171 13	215,301 39
Totals, 1917,	$1,529,932 55	$163,593 21	$816,159 01
Totals, 1916,	2,965,255 72	147,281 54	1,259,619 71
Grand totals,	$4,495,188 27	$310,874 75	$2,075,778 72

BUREAU OF STATISTICS AND INFORMATION COMPILES RECORD OF INDUSTRIAL ACCIDENTS IN PENNSYLVANIA FOR THE YEAR 1916 SHOWING 255,616 ACCIDENTS REPORTED, OF WHICH 2,670 WERE FATALTIES.

Accident reports received at the Bureau of Statistics and Information during the year 1916 indicate 2,670 fatalities from a total of 255,616 accidents reported. Of the total number of workers killed, 2,656 were men and 14 were women. Of the total number of workers receiving injuries and including fatal cases, 250,167 were men and 5,449 were women.

There were 59,714 accident reports indicating that the workers were disabled for periods exceeding fourteen days, classed as serious accidents, and there were 193,232 reports indicating that the workers sustained minor injuries causing disability for periods less than fourteen days.

Industrial accidents in Pennsylvania during 1916 caused injured workers to lose time equivalent to 3,025,371 working days. The total amount of wages lost by injured workers amounted to $7,535,059.

Classification of the accident reports, received during 1916, has been made in the Bureau of Statistics to show the various kind of injuries received, the parts of the body injured and the parts of the body lost through amputation as a result of accident. These figures are subject to slight variations in the final analyses to be made by the Statistics Bureau.

PENNSYLVANIA DEPARTMENT OF LABOR AND INDUSTRY ACCIDENTS REPORTED IN 1916.

	Total.	Males.	Females.
Total number of accidents,.....	255,616	250,167	5,449
DEGREE.			
Fatal, ...	2,670	2,656	14
Serious disability exceeding 14 days,.....	59,714	58,670	1,044
Minor disability less than 14 days,.....	193,232	188,841	4,391

Number of dependents of workers killed and injured,.....	211,327
Number of days lost by workers injured,.....	3,025,371
Total amount of wages lost by workers injured,.....	$7,535,059

NATURE OF INJURY.

Burns and scalds, ...	17,282
Crushes and bruises, ...	87,071
Cuts and lacerations, ...	71,868
Fractures, sprains, and dislocations,.....	37,400
Hernia, ...	1,254
Blood poisoning, ...	3,755
Punctures, ...	8,387
Unclassified, ...	28,599

PART OF BODY INJURED.

Trunk, ...	33,440
Head and face, ...	21,631
Eyes, ...	20,665
Arms, ...	15,129
Hands, ...	30,513
Fingers, ...	62,656
Legs, ...	22,954
Feet, ...	34,334
Toes, ...	14,294

LOSS OF MEMBERS.

Eyes, ...	366
Arms, ...	59
Hands, ...	105
Fingers, ...	1,111
Legs, ...	111
Feet, ...	48
Toes, ...	87

BUREAU OF MEDIATION AND ARBITRATION SETTLED NINE STRIKES INVOLVING 1,481 EMPLOYES DURING THE MONTH OF APRIL, 1917.

The Bureau of Mediation and Arbitration responded to fourteen appeals for mediators during the month of April, 1917, and through their efforts nine of the strikes, involving 1,481 employes were settled. Five of the strikes in which mediators attempted to effect settlement were still pending May 1.

These five strikes involved 447 employes. During the entire month of April thirty-seven strikes were reported to the Bureau. These thirty-seven strikes involved 5,311 employes and during the continuance, estimates at the Bureau, indicated a loss in wages amounting to $106,673. A complete record of the strikes reported during the month and the strikes in which Department mediators acted, classified by industries and counties are given in the following table:

Industry.	Strikes Reported During Month.						Strikes in Which Department Mediators Acted.						
	Total number.	Employes involved.	Settled.	Employes involved.	Pending.	Employes involved.	Total number.	Employes involved.	Settled.	Employes involved.	Pending.	Employes involved.	Total estimated loss in wages.
Miscellaneous,	2	259	.....	.....	2	259	.....	.....	.....	.....	.....	.....	.....
Building trades,	7	979	6	949	1	30	3	650	2	650	.....	.....	$42,100 00
Garments,	2	100	1	50	1	50	2	100	1	50	1	50	631 00
Textile,	2	32	.....	.....	2	32	1	17	.....	.....	1	17	.....
Metal,	10	1,967	6	1,245	4	722	3	350	2	262	1	88	6,490 00
Mining,	7	1,512	4	720	3	792	3	492	1	200	2	292	25,000 00
Public Service,	6	447	5	372	1	75	3	319	3	319	.....	.....	32,452 00
Ship building,	1	15	.....	.....	1	15	.....	.....	.....	.....	.....	.....	.....
Total,	37	5,311	22	3,336	15	1,975	14	1,928	9	1,481	5	447	$106,673 00
County.													
Allegheny,	2	305	.....	.....	2	305	.....	.....	.....	.....	.....	.....	.....
Bedford,	1	200	1	200	.....	.....	1	200	1	200	.....	.....	$11,000 00
Cambria,	2	500	2	500	.....	.....	.....	.....	.....	.....	.....	.....	13,300 00
Chester,	1	17	1	17	.....	.....	1	17	1	17	.....	.....	900 00
Clearfield,	2	292	.....	.....	2	292	2	292	.....	.....	2	292	.....
Erie,	3	428	2	398	1	30	1	250	1	250	.....	.....	32,200 00
Fayette,	1	12	1	12	.....	.....	1	12	1	12	.....	.....	.....
Lackawanna,	3	404	1	250	2	154	1	250	1	250	.....	.....	1,250 00
Lawrence,	1	500	.....	.....	1	500	.....	.....	.....	.....	.....	.....	.....
Lehigh,	1	22	1	22	.....	.....	.....	.....	.....	.....	.....	.....	100 00
Luzerne,	3	535	2	35	1	500	.....	.....	.....	.....	.....	.....	400 00
Mercer,	1	250	1	250	.....	.....	1	250	1	250	.....	.....	21,600 00
Montgomery,	1	26	1	26	.....	.....	.....	.....	.....	.....	.....	.....	1,040 00
Montour,	2	138	1	50	1	88	2	138	1	50	1	88	631 00
Northampton,	3	119	3	119	.....	.....	1	52	1	52	.....	.....	1,402 00
Northumberland,	1	200	1	200	.....	.....	.....	.....	.....	.....	.....	.....	18,000 00
Philadelphia,	6	545	2	448	4	97	3	467	1	400	2	67	850 00
Westmoreland,	1	800	1	800	.....	.....	.....	.....	.....	.....	.....	.....	4,000 00
York,	2	18	1	9	1	9	.....	.....	.....	.....	.....	.....	.....
Total,	37	5,311	22	3,336	15	1,975	14	1,928	9	1,481	5	447	$106,673 00

WORK OF THE BUREAU OF EMPLOYMENT DURING APRIL, 1917.

The activities of the Bureau of Employment during the month of April were largely the securing of orders and applications for farm work. An effort was made to induce many of the students in colleges and other institutions of learning to engage in some sort of agricultural work during the vacation period. The presidents and deans of colleges urged the young men under their care to serve their country during the summer by increasing the output of food stuffs. For this reason the Bureau found little difficulty in securing applications from students. But, as many of these students are not available for work before June and even as late as July, the records of placements of this nature was only begun during April. Many of the colleges, however, were willing to grant the students academic credit for the remainder of the term if they would engage immediately in agricultural work. Many students took advantage of the offer and were willing to go to work at once. In high schools, the boys also offered their services to their country by applying for farm work of some nature.

In addition to the applications for farm work from students in schools and colleges, hundreds of applications were received from persons with experience as farmers, and also from many volunteers not experienced, but who wishes to serve their country in this special manner.

The newspapers of the State published daily articles on the value of farm work this year. Many special committees and organizations set to work and with all these committees the State Bureau of Employment co-operated in every way possible.

The State Bureau of Employment sent out about 16,000 letters and questionnaires to farmers in Philadelphia county and the surrounding counties, Delaware, Chester, Montgomery and Bucks on the subject of farm help. The questionnaires filled out by the farmers were returned to the Farm Bureaus in their respective districts and with further information were later received at the Philadelphia office of the Employment Bureau.

In the Pittsburgh, Johnstown and Altoona offices of the Bureau, the plan was about the same as in Philadelphia. Various committees worked in co-operation. In Altoona, the bankers of Blair County also met with the committees to discuss methods of making loans to farmers in order to aid them in their work.

The form of letter and questionnaires sent out by various offices is practically the same. The following form is the one prepared by the Safety Council in Altoona in co-operation with the Altoona Chamber of Commerce, the Blair Country Farm Bureau and the State Bureau of Employment.

Each farmer within certain assigned districts received the following form letter:

Altoona, Pa.

Dear Sir:—

The sub-committee of the Public Safety Council of the State of Pennsylvania appointed by Governor Brumbaugh, representatives of the Altoona Chamber of Commerce, the Blair County Farm Bureau, and the Pennsylvania State Employment Bureau at this place, met to formulate plans to meet the emergency of our country in the matter of food production and marketing.

The task of helping the farmers of Blair County to obtain labor on the farm, has been turned over to the local office of the Bureau of Employment.

Kindly fill out the enclosed questionnaire. If the questions asked do not touch all your needs, use the reverse side of this sheet for any additional requests.

This move is being taken to meet the needs for farm labor in this emergency of our country and the best service cannot be rendered without your hearty co-operation.

Yours very truly,
PENNSYLVANIA STATE EMPLOYMENT BUREAU,
ELVIN E. MYERS,
Secretary.

PUBLIC SAFETY COUNCIL OF THE STATE OF PENNSYLVANIA IN COOPERATION WITH THE ALTOONA CHAMBER OF COMMERCE, THE BLAIR COUNTY FARM BUREAU AND THE STATE BUREAU OF EMPLOYMENT.

Township.....

Name .....Address .....

Are you in need of farm help?.....

How many? ..... Males, ... Females, ...

When (.....) (.....) (.....)
State date. Season. Harvest only.

Will young men just from High School and College be satisfactory?.....

.....

What fertilizers will you need for the remainder of the season?.....

(.....) (.....)
Crop. Amount.

NOTE.—Replies are supposed to indicate only the needs not available in your community. This will be considered strictly confidential.

What seeds will you need? (.....)
Crop.

.....(.....)
Amount.

May we assist you to procure short term loans on approved security?.....

If so, to what amount? $.....

It is too early to show the results of the work. Money orders were received from the farmers, and hundreds of applications from persons willing to do farm work. One college which received ten application blanks for students to fill out, wrote back: "We have used the blanks you sent and should like to have seventy-five more." A small industrial school sent ten applications from their students, all for farm work.

The farmers' orders are usually much like the following specimen in regard to wages and general conditions:

Yours of April 2d received and we thank you for the names of the two young men.

We pay anywhere from $20 to $35 per month and board, depending on the age and experience of the man.

We are now looking for a steady married man with one or two grown children or no children at all to move into our tenant house. For this we would pay $40 per month, free rent and wood. If you know of a good man who would care to move on our fruit farm, we would appreciate it if you would put us in touch with him.

Another farm order is about the same in its offers:

On my farm six miles from....., Pa., a man and his wife can earn $45 per month and have a house, fuel, and the necessary potatoes, apples and milk for their own consumption supplied.

The man will be expected to do general farm work and if possible I should like one who has had some experience. His wife would be asked to help with the house-work half the time in a family of two adults.

I am also in need of an energetic boy about fifteen to help with chores and milking for $10 per month and board.

Can you put me in touch with anyone who might undertake such work?

I shall be grateful for any assistance or information you may be able to supply.

RECORD OF WORK OF THE STATE EMPLOYMENT BUREAU DURING APRIL, 1917.

Harrisburg.

Number of persons asked for by employers,	366
Number of applications for positions,	387
Number of persons referred to positions,	299
Number of positions filled,	269

Philadelphia.

Number of persons asked for by employers,	1,009
Number of applications for positions,	1,119
Number of persons referred to positions,	767
Number of positions filled,	655

Pittsburgh.

Number of persons asked for by employers,	1,436
Number of applications for positions,	745
Number of persons referred to positions,	636
Number of positions filled,	553

Johnstown.

Number of persons asked for by employers,	145
Number of applications for positions,	84
Number of persons referred to positions,	70
Number of positions filled,	58

Altoona.

Number of persons asked for by employers,	164
Number of applications for positions,	56
Number of persons referred to positions,	29
Number of positions filled,	24

Grand Totals for all Offices.

Number of persons asked for by employers,	3,120
Number of applications for positions,	2,391
Number of persons referred to positions,	1,801
Number of positions filled,	1,559

PLACEMENT WORK OF THE HARRISBURG OFFICE FOR THE MONTH OF APRIL, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Labor,,	32.0	33.7	34.5
Clerical and commercial,	5.0	8.8	7.7
Semi-skilled,	5.6	5.3	5.3
Skilled,	57.0	47.9	51.1
Technical and professional,	.3	4.1	1.1

WOMEN'S AND GIRLS' DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Domestic and personal, ...	93.6	74.2	92.8
Professional, ...	1.0	2.2	.9
Commercial and clerical, ...	3.9	21.5	5.0
Factory work, ...	1.3	1.9	1.0

PLACEMENT WORK OF THE PHILADELPHIA OFFICE FOR THE MONTH OF APRIL, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Labor, ...	9.4	10.0	11.9
Clerical and commercial, ...	16.3	16.3	18.2
Semi-skilled, ...	26.9	21.3	22.5
Skilled, ...	45.5	50.8	46.2
Technical and professional, ...	1.9	1.6	1.2

WOMEN'S AND GIRLS' DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Domestic and personal, ...	72.1	61.6	58.3
Professional, ...	.4	3.8	2.5
Commercial and clerical, ...	15.4	15.1	18.9
Factory work, ...	12.1	19.5	20.3

PLACEMENT WORK OF THE PITTSBURGH OFFICE FOR THE MONTH OF APRIL, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Labor,	55	20	19
Clerical and commercial,	02	14	07
Semi-skilled,	19	24	42
Skilled,	23	41	31
Technical and professional,	less than 1	less than 1	less than 1

THE LOCATION OF EVERY EMPLOYMENT AGENCY MUST BE APPROVED ACCORDING TO LAW.

An act approved the seventh day of June, 1915, Section 1, states:—

> "That no employment agent shall herafter conduct business for profit unless licensed to do so in accordance with the provisions of this act."

It is necessary for all persons carrying on the business of an employment agency for profit to take out a State license with the State Department of Labor and Industry through its Bureau of Employment. The license fee is fifty dollars and is good from the day of issue until the last day of September following. This license must be accompanied by a bond in the sum of one thousand dollars. The street address of the place of business must be given.

Before a license is issued, the character of the person making application is investigated; as is also the place where he wishes to carry on the business. The Department may refuse to issue a license if upon investigation it finds that the applicant is unfit to engage in the business, or has had a license or permit previously revoked; or that the business is to be conducted on, or immediately adjoining, unsuitable premises; or for any other good reason within the meaning of the law.

Many of the agents have changed their location and then notified the bureau of the change. This made it necessary for the following letter to be sent to all employment agents holding licenses, for they are bonded for one location and their bond is not valid for a different

location unless the change of address is noted on the license. Moreover, the new location may not meet the requirements of the law.

The letter reads as follows:

Commonwealth of Pennsylvania
Department of Labor and Industry
Bureau of Employment
Harrisburg.

To all Employment Agents:

A number of agents have recently notified this office that they have moved from their old location to a new one and requested that we change their license to the new address. This letter is being sent out to all agents holding licenses to inform them that before they move, they must first notify this office of the address, so that an investigation can be made of the location by this Department.

After the Department has investigated the new place and agrees to change the license, then the agent must forward to this office, the old license which we shall change to conform with the new address. This license will not be forwarded, however, until the bond, which we shall return, is changed by the bonding company to the new location.

This rule must be lived up to. Failure to comply with it, may cause the refusal of a license for the new quarters. Kindly be governed accordingly, and oblige

Yours faithfully,

JACOB LIGHTNER,
Director.

THE ELECTRIC CODE OF THE INDUSTRIAL BOARD.

On July first, this year, Industrial Board Safety Standard No. 21, otherwise known as the Electric Code, becomes operative. This code, consisting of 183 pages, was prepared in co-operation with the National Bureau of Standards and has received the attention of many prominent engineers in the course of its preparation.

Pennsylvania is the first state in this country to adopt such an extensive code dealing with electrical safety and it is quite natural that its operation may from time to time suggest alterations that should be made and which could not have been anticipated in the process of preparation. Those to whom its provisions apply are, therefore, requested to report to the Industrial Boord such changes that their experience would show advisable. This will enable the Board to make such alterations intelligently where desirable, and thus remove any imperfections that may at present exist.

The introductory part of the code is quite comprehensive and includes, besides the regular introduction, a section on definitions of special terms and rules covering methods of protective grounding of circuits, equipment and lightning arresters. The nature of the

ground connection, its location, size and resistance are described with much detail.

Part one gives rules for the installation and maintenance of electrical supply stations and equipment. Various sections treat on rotating equipment, storage batteries, transformers, switchboards, lightning arresters, etc. Methods are given for reducing danger of contact with live parts by either insulation, isolation or guarding. Adequate illumination and ventilation are specified when required. It has been the endeavor to anticipate all possible hazards and prescribe methods for their elimination.

Fifty pages are required to give rules for the installation and maintenance of electrical utilization equipment such as motors, lighting fixtures, electric furnaces and welders, portable devices, etc. The same method as followed in the first part is here also used in describing adequate safeguards. Persons operating utilization apparatus are usually less expert, electrically, than those operating supply equipment; hence, the rules in this part are somewhat more rigid and less dependence is placed on the electrical knowledge of the operator to prevent electrical accidents.

The last part covers operation of electrical equipment and lines. Many companies, operating high voltage transmission lines, do not have sufficient rules governing the switching and repairing of such equipment. On account of the nature of the work, the safety of the lineman depends largely on the switching operations of the man in the supply station or sub-station. In order to avoid accidents a clear understanding must always exist among the men involved in the operation. This can be accomplished best by having a rigid set of rules and procedures which must be adhered to. The experience of many large operating companies and engineers was available in the formation of the rules presented and practically no alterations will be necessary to apply them to any local condition.

Comprehensive discussions follow each part explaining the reasons for the various rules where they may not be apparent. In fact these portions of the code are extremely valuable to those practical men who know what to do but who may not have had sufficient training to know why certain things are done.

Copies of the code may be obtained from the Secretary of the Industrial Board, Harrisburg, Pa.

INDUSTRIAL BOARD DISTRIBUTES WARNING SIGNS FOR CHEMICAL PLANTS MAKES ADDITIONAL RULINGS AND APPROVES SAFETY DEVICES.

Warning signs, to be posted in chemical plants throughout Pennsylvania, cautioning employes against dangers of dense acid fumes, have been prepared by the Industrial Board and are being distributed.

The poster sets forth that employes are prohibited from entering buildings or tanks where dense acid fumes exist unless a helmet is worn and in tank work a life line must be used.

Employes who have been exposed to acid fumes and who feel weak, sick and short of breath or who are attacked with cramps or coughing are ordered to report their condition at once to the foreman or go to the hospital immediately for proper treatment.

The Industrial Board fixes the responsibility for complying with the regulations, to safeguard workers in chemical plants, with the foreman or other person designated for that purpose by the management of the plant. A failure to comply with the regulations subject the offender to a penalty of fine or imprisonment. Additional copies of these posters are available to chemical plants upon application to the Department of Labor and Industry, Harrisburg, Pa.

Rulings on Minors in Wholesale Liquor Stores

Children under eighteen years of age are prohiibted from certain duties in wholesale liquor stores and in clubs, hotels or other places where alcoholic liquors are dispensed or stored, under a recent ruling of the Industrial Board. The ruling is as follows:

"Pursuant to the provisions of Section 5 of the Child Labor Act, May 13, 1915, P. L. 286, the following occupations are hereby determined and declared to be injurious to the health and morals of minors, under the age of eighteen years, and therefore unlawful for employers to permit any such minor to work therein:—

"Handling of case goods, barrelled goods, and other heavy materials in wholesale liquor stores.

"Any other occupation in wholesale liquor stores.

"Serving, handling or care of alcoholic liquors in clubs, hotels or other places where alcoholic liquors are dispensed, or stored."

Boy Employes on Rifle Ranges

Boys between the ages of sixteen and eighteen years may be employed as markers in the pits of rifle ranges under proper safeguards according to a ruling of the Industrial Board, which has

decided that such work is, under proper conditions, not a dangerous occupation as intended in the Child Labor Law. Action on this question was taken following inquiries from rifle clubs in various sections of Pennsylvania.

Ruling on Boilers

Notices have been set by the Industrial Board to manufacturers, chief inspectors and general inspectors of steam boilers that a ruling makes mandatory that after January 1, of next year, every boiler installed in Pennsylvania must conform with the Boiler Code of the Industrial Board.

The ruling is as follows:—

"No boiler shall be admitted into Pennsylvania after January 1, 1918, which does not conform with the boiler standards of Pennsylvania."

Safety Devices Approved

Thirty-six additional safety devices have been awarded certificates of approval by the Industrial Board. Eighty-six devices for safety in industry have thus far been passed by the Industrial Board upon recommendation of the Committee of Approvals, appointed by the Board to investigate all devices submitted. The last safety devices approved bear certificates from No. 51 to No. 86 inclusive. The manufacturers of the devices and the devices approved are as follows:—

No. 51. The Frog Switch & Mfg. Co., Carlisle, Pa.—Swing Frame Grinder.

No. 52. Zeiller & Nagel, Brooklyn, N. Y.—Saw Guard, Designated as Exhibit No. 2.

No. 53. Zeiller & Nagel, Brooklyn, N. Y —Saw Guard, Designated as Exhibit No. 3.

No. 54. Zeiller & Nagel, Brooklyn, N. Y.—Shaper Guard.

No. 55. Pyrene Mfg. Co., Philadelphia, Pa.—Pyrene Fire Extinguisher.

No. 56. Reiber-Gibbs Co., 2516 Smallman St., Pittsburgh, Pa.—Reiber Safety Reading Device for Boiler Water Gauges.

No. 57. Reiber-Gibbs Co., 2516 Smallman St., Pittsburgh, Pa.—Safety First Gauge Glass Protector.

No. 58. Mr. A. S. Flowers, Mt. Joy, Pa.—Fire and Panic Door Opening Device.

No. 59. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Circular Cover for Wood Drill.

No. 60. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Flexible Roller Guard for Rear of Wood Planer.

No. 61. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Guard for Cross Cut Saw.

No. 62. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Guard for Rip Saw.

No. 63. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Small Safety Soldering Ladle.

No. 64. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Safety Roller Feed Punch Press.

No. 65. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Automatic Feed and Discharge.
No. 66. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Safety Belt for Window Cleaners.
No. 67. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Safety Guard for Gang Press.
No. 68. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Safety Acid Jugs.
No. 69. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Wire Guard for Large Glass Reflectors.
No. 70. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Suction Device for Lifting Punchings.
No. 71. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Wooden Tongs for High Voltage Fuses.
No. 72. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Safety Screw Drivers.
No. 73. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Safety Suction Device for Handling Sheet Metal.
No. 74. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.—Five Different Kinds of Safety Devices for Placing or removing Punchings on Punch Press.
No. 75. General Electric Co., Philadelphia, Pa.—Safety First, Truck Type, Alternating Current Switchboard Panel Unit.
No. 76. General Electric Co., Philadelphia, Pa.—Three-wire Steel Switching Cabinet.
No. 77. General Electric Co., Philadelphia, Pa.—Safety First Switch Panel.
No. 78. General Electric Co., Philadelphia, Pa.—Switch Unit.
No. 79. General Electric Co., Philadelphia, Pa.—Enclosed Safety First Line Switch.
No. 80. Positive Lock Bolt Co., 805-807 Walnut St., Philadelphia, Pa.—Positive Lock Bolt.
No. 81. Mason Safety Tread Co., 1836 Euclid Avenue, Cleveland, Ohio.—Mason Safety Tread, Lead Filled.
No. 82. Mason Safety Tread Co., 1836 Euclid Avenue, Cleveland, Ohio.—Mason Safety Tread-Carborundum Filled.
No. 83. Mason Safety Tread Co., 1836 Euclid Avenue, Cleveland, Ohio.—Mason Black Diamond Safety Tread.
No. 84. Mason Safety Tread Co., 1836 Euclid Avenue, Cleveland, Ohio.—Mason Non-Slipping Ladder Shoes.
No. 85. Krantz Mfg. Co., Brooklyn, N. Y.—Krantz Auto-Lock Panel.
No. 86. Sargent Company, New Haven, Conn.—Sargent Panic Bolt.

SOCIAL AND INDUSTRIAL INSURANCES AS DISCUSSED BY COMMISSIONER JOHN PRICE JACKSON BEFORE LABOR'S OPEN FORUM AT HARRISBURG, FEBRUARY 25, 1917.

The term compulsory social insurance, when used in discussion, is quite commonly intended to cover workmen's accident compensation, widows' pensions, old age pensions, sickness insurance, maternity insurance, occupational disease compensation, unemployment

insurance, or other systems for protecting the worker in the times of adversity. In some cases, where nations have adopted such systems, the cost is borne by the whole people through the government, in other cases the burden has been distributed in a variety of proportions between government, employes and employer.

Accident compensation insurance has been accepted largely throughout the world as just and worth while. The administrative costs, as in Pennsylvania's system, are usually assumed by the government, while the benefits, medical, and allied expenses are assessed upon the employer as being a proper charge upon the cost of production. A year's experience in Pennsylvania under the working of such a system has not only resulted in medical attention and financial aid to tens of thousands of injured persons and in substancial financial assistance to widows and orphans, but has also aroused an earnest crusade among our people to *reduce* accidents, such as could be obtained in no other way. Undoubtedly under the impetus of this humane crusade, the reduction of unnecessary human waste will bring added wealth to the Commonwealth many times in excess of the entire cost of the system.

Occupational Disease Compensation

Truly occupational diseases are as much injuries to the body due to industry as are industrial accidents and, therefore, if it is just and desirable that one of these two classes of injuries be compensated, it is equally right that the other should be similarly treated. The difficulty seems to be that it is always hard to determine whether or not the disease was due to the injury or to other causes. The experience of England in Europe and of Massachusetts in this country, however, is such as to indicate that this difficulty can be overcome, and that occupational disease compensation proves as great an impetus toward improvement of health conditions in the work-place as does accident compensation tend to improve safety methods.

General sickness insurance for those receiving less than a specified wage, where the government, the employer, and the employes join in bearing the expenses, is in force in some countries. In Germany the system is expensive and cumbersome and can scarcely be declared wholly satisfactory. It, moreover, carries with it the onerous burden of tending to cause a person to exaggerate his aches and pains, rather than to fight them. Nevertheless, there are many favorable reports upon such systems, and if they can be so developed as to improve materially our health conditions they would prove of material value to us.

Other Insurances

We are entirely too lacking in the respect and merited attention due to our old people who have finished the battle of active life. China, in spite of her formerly backward government, puts us to shame in this respect. Those who are destitute, through misfortune or lack of foresight, are often forced to live on inadequate crumbs and in ragged raiment, or to crowd into poor houses under a stigma which makes charity blush. We can scarcely go too far to honor and care for our old people. It is possible that old age pensions tried in other countries, and by some corporations in this country, would bring self-respect and happiness to the declining days of these people. It is not likely that the size of the pension which would be given would be of such proportion as to cause any of us in virile, active life, to be less industrious or less anxious to lay aside a comfortable competence for our later years.

In spite of the croakers, we Pennsylvanians are proud that we have established the widow's pension. The only regret we have is that it is being put into full force and operation so slowly. To give the widow a chance to bring up, feed, and clothe her children properly, rather than to force her to neglect and ill nurture them, is not only humane but a measure of public economy.

In certain other countries, where many married women work in the mills, it has been found wise to provide by law for their release from work and to give them care and assistance during the child-birth period. In this country fewer married women have been so employed,—though the number is apparently growing,—and this problem of public care has not been thrust upon us. It is, however, now being considerably discussed.

Compulsory unemployment insurance is being given an extensive and seemingly successful trial in England. In several of the largest established trades the workmen receives, after a limited waiting during unemployment, the benefits of an unemployment insurance. At first a small percentage of shirkers took such unfair advantage by not trying to find employment, that the experiment almost failed. This difficulty was remedied by combining the administration with an effective organization of free governmental employment agencies. Now when the man loses employment, the agency immediately hunts a new job for him. If this is one in his own trade, and within the rules as to distance and conditions, it serves as a stop to further benefits whether the position is accepted or not. The agency not only serves to make the unemployment insurance system workable, but is most useful in aiding men in its district to find positions quickly, for which they are best fitted, with resultant reduction of human waste and raised efficiency. Trades unions are strongly

backing this system and it seems to have the approval of employers and public officials.

Protection Rather Than Charity

This group of collective activities, touched upon herein, aim directly to improve the opportunity of a man to support himself and his family, to prepare for the "rainy day," and to receive as his due, rather than as charity, support needel by reason of old age, and vocational accident or sickness. The broader purpose is to eliminate unnecessary human waste and suffering. Undoubtedly, the teachings of the Christian religion, particularly as to the brotherhood of man, have quickened the consciences of nations and communities to search for such methods as will reduce suffering and want. Where they have been tried, however, it has been in the belief that they would not only be humane, but would also tend to improve the effectiveness of and conserve human labor; indications tend to show that a fair measure of success has been attained to this end.

In discussing collective activities of this order, there are many human constituents to consider. Thus, when our forefathers came to this country, they left lands of comparative comfort and plenty to brave the rigors of an unknown wilderness, in order that they might have liberty to think, to speak, to act, and to worship as seemed good to them. They gave forth the Declaration of Independence and offered their lives to throw off the rule from abroad that threatened that liberty. Danger lurks in any community action such as has been spoken of, in that it may, if thoughtlessly applied, destroy that liberty which was with such hardship won and which we so greatly prize.

American Initiative Should be Preserved

It has been said that greatest blessing of America is the self-reliance, independence, and initiative of the American citizen and that advances along the industrial social lines should be made, only after most careful study and deliberation, in order that those valuable characteristics may not be marred.

There are, however, without question, ways, possibly some among those suggested, modification and expression thereof, and entirely new proposals, whereby the nation, states, communities, employers, and employes can co-operatively get together to eliminate or greatly reduce the present terrific waste of human energy and unnecessary human suffering. without interfering with either our reasonable liberties or injuring our characters.

Most of this waste and suffering has come with an industrial system which has just grown, with heterogeneous parts, and but little direction and which is filled with astounding crudities and

bungling, in spite of its might, and in many ways, wonderful performance. Our people are just awakening to the need of looking conditiions squarely in the face and just beginning to appreciate the powerful value of friendly co-operation among all of its constituents. In other words, we are just beginning to learn that, under our present conditions, many of our problems, dealt with individually, must be solved by the whole people or great units of the people working together in harmony.

This problem is laid before the Open Forum because in America, it is the people affected who are the rulers, and it is only by free discussion and thought among those rulers that wise solutions of such problems can be expected.

PROCEEDINGS OF INDUSTRIAL PHYSICIANS' CONFERENCE.

The large number of physicians engaged in industrial practice as well as others interested in this subject may obtain a copy of the Proceedings of the Fourth Conference of Industrial Physicians which was held at the Capitol on February 16, 1917.

This conference was attended by over two hundred and fifty persons from Pennsylvania and neighboring states. The subjects considered were of interest to plant managers, welfare managers, and to safety men, as well as to physicians for whom these conferences are primarily intended.

In as much as the publication of the Proceedings of the Fourth Annual Welfare and Efficiency Conference has so recently occupied two issues of the Monthly Bulletin of this Department, it has been deemed inadvisable to publish the complete February conference proceedings at the present time. The Pennsylvania Medical Journal has, however, the work being done in this branch of medicine which is so closely interwoven with industry, and has publishel in its June issue the proceedings of this Conference in full. The Department of Labor and Industry has obtained a number of reprints of these proceedings and will distribute them without cost to any person interested in this phase of industrial conservation.

Intended originally only for physicians, these conferences have proved to be of general importance. And the papers, far from being strictly technical, are as instructive and interesting to the average business man as to the physician. It is to be regretted that these papers could not be published in full in the Bulletin. The following program, however, shows the scope of the subjects covered and also

demonstrates that these subjects were presented by men of national prominence:

The Relation of the Physician to the Compensation Law and its Proposed Amendments, Dr. William Estes, Chairman, Committee on Workmen's Compensation, Medical Society of Pennsylvania, South Bethlehem, Pa.

Discussion opened by Dr. Charles A. E. Codman, President, Medical Society of Pennsylvania.

Compensation for Industrial Diseases. Dr. Frederick L. Hoffman, Statistician, Prudential Life Insurance Co., Newark, N. J.

Discussion opened by Dr. Alfred Stengel, Professor of Medicine, University of Pennsylvania, Philadelphia, Pa.

The Dawn of a New Surgical Era—The Carrel-Dakin Treatment of Infected Wounds, Dr. William O'Neill Sherman, Chief Surgeon, Carnegie Steel Company, Pittsburgh, Pa.

Discussion opened by Dr. J. S. Lawrence, Johns Hopkins University, Baltimore, Md.

Treatment of Fractures of the Long Bones from the Viewpoint of Function, Dr. Edward Martin, Professor of Surgery, University of Pennsylvania, Philadelphia, Pa.

Discussion opened by Dr. John B. Lowman, Chief Surgeon, Cambria Steel Co., Johnstown, Pa.

National Standards for First Aid, Dr. Joseph C. Bloodgood, Associate Professor, Clinical Surgery, Johns Hopkins University, Baltimore, Md.

The presentation of the program at this time is for the purpose of allowing anyone interested in one or more of these topics an opportunity to obtain a copy of the papers presented together with the discussions upon them. A supply of reprints of these proceedings is available and until this supply is exhausted they will be sent to anyone indicating a desire to receive them. Address all requests for these publications to the Division of Industrial Hygiene and Engineering, Department of Labor and Industry, Kunkel Building, Harrisburg, Pa.

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PATRICK GILDAY

March 25, 1863—September 14, 1917

Late Chief, Bureau of Mediation and Arbitration, Pennsylvania Department of Labor and Industry.

PATRICK GILDAY.

An Appreciation, by Commissioner John Price Jackson.

Patrick Gilday, whose death occurred September 14, 1917, entered the Pennsylvania Department of Labor and Industry, as Chief of the Bureau of Mediation and Arbitration, July 16, 1915. A painstaking and thorough search had been made throughout the country for the purpose of obtaining the best man for this most important and difficult position,—a position upon which depends, to a very large measure, the welfare and happiness of our workers, and the prosperity of our industries. Mr. Gilday proved to be the end of that search.

He was a self made man and worked up through the various grades of coal mining until he became an expert. At the same time his humanity, kindliness, and wisdom caused him early to become a leader of those with whom he worked and of the community and State in which he dwelt. For approximately twenty-five years he was the leader and first official of one of the great divisions of the United Mine Workers of America. For a few years before he joined the Pennsylvania Department of Labor and Industry, he had been one of the conciliators of the national government, where he stood out preeminently in his work in settling, amicably, disputes between labor and capital.

When it was learned that he was being considered for the position in Pennsylvania, numbers of both prominent and unknown men wrote or came to Harrisburg to urge his appointment. Both capital and labor, apparently, trusted him implicitly. He made no personal application for the position, but, in reality, was the popular choice of the people, whether in the ranks of labor or of capital.

Immediately upon assuming his office he began in a direct and effective way to take hold of the many labor differences which are continually occurring in this great industrial State. He was at once successful and, in the two and one-half years of his tenure of office, he settled, in a way pleasing to both sides, many difficult and important industrial disputes. The number of such disputes settled through his mediation, or by those under his direction, amounted to over three hundred, and undoubtedly involved a saving in money, from wasted labor and idle machines, amounting to very much more than the entire cost of running all of the Bureaus of the Department of Labor and Industry.

Mr. Gilday was pre-eminently a fine type of man. Not only did he have a wisdom and judgment far beyond the ordinary, but combined with that he had a sympathy for the other fellow, a kindliness of heart, and a willingness to sacrifice himself, very seldom to be met with.

His fellow official workers quickly came not only to respect and to admire him, but to have an affectionate regard for him. He inspired such feelings among all with whom he came in contact.

During the first six months of the present year, he suffered terribly from his malady, but in spite of this suffering he forged away at his work without sparing himself, frequently working not only during the days but a large part of the nights. His death came as a severe shock to his fellow governmental workers and to the tens of thousands of his personal friends and admirers throughout the Commonwealth. When Patrick Gilday died, the Commonwealth of Pennsylvania lost one of her greatest and best sons,—one whom it will be hard to replace. The Commonwealth of Pennsylvania may well do homage to this great, though modest and self-effacing, man, who has loyally done, during his span of life, so much to advance her welfare and the happiness of her people.

THE BUREAU OF MEDIATION AND ARBITRATION OF THE DEPARTMENT OF LABOR AND INDUSTRY SETTLED THIRTY-SIX STRIKES INVOLVING 25,149 EMPLOYES DURING THE MONTHS OF MAY, JUNE AND JULY, 1917.

Thirty-six strikes, involving 25,149 employes, were settled through the efforts of the Bureau of Mediation and Arbitration of the Department of Labor and Industry during the months of May, June and July, 1917. During those three months, 89 strikes, involving 35,101 employes, were reported to the Department and, with the limited number of mediators available in the Department, it was possible to respond in 44 or approximately one-half of the total number of disputes. Of the 44 strikes in which the Department mediators acted, only eight were still pending on August 1, 1917. The estimated wage loss in the 89 strikes reported to the Department during the months of May, June and July was $457,034.

Nine of the strikes settled by the Department mediators arose in the metal trades and eight of the settled strikes were in mines and eight in textile plants. Two strikes occurred in public service work. The other classes of industry having one strike each were:

Building trades, chemicals, glass, garments, foods, leather, lumber, and paper. One strike occurred in a small industry coming under the miscellaneous classification.

The 44 strikes, in which the mediators acted, occurred in 16 different counties. Nine occurred in Cambria county, 5 in Clearfield, 4 in Luzerne, 3 in Allegheny, Philadelphia and Westmoreland, 2 in Columbia, Jefferson, Lancaster, Montgomery, Montour, Northumberland and Washington. The counties where one strike required the attention of mediators were Carbon, Venango and York. The greatest services performed by the mediators, in strike settlement, during May, June and July were in Westmoreland county where 3 strikes involving 10,941 employes were settled.

The complete record of strikes reported by industries and by counties and the work performed by the mediators in adjusting the difficulties are indicated in the following table:

REPORT OF THE BUREAU OF MEDIATION AND ARBITRATION FOR THE MONTHS OF MAY, JUNE AND JULY, 1917.

Industry.	Strikes Reported During Period.						Strikes in Which Department Mediators Acted.						Wages.
	Total number.	Employes involved.	Settled.	Employes involved.	Pending.	Employes involved.	Total number.	Employes involved.	Settled.	Employes involved.	Pending.	Employes involved.	Estimated loss.
Building trades,	5	4,590	5	4,590			1	4,000	1	4,000			$108,685 00
Chemicals,	1	400	1	400			1	400	1	400			1,200 00
Glass,	3	150	3	150			1	60	1	60			1,278 00
Garments,	2	230	2	230			1	170	1	170			5,625 00
Foods,	2	356	2	356			1	330	1	330			14,190 00
Leather,	1	9,000	1	9,000			1	9,000	1	9,000			13,500 00
Lumber,	4	100	4	100			1	40	1	40			1,904 00
Paper,	1	65	1	65			1	65	1	65			150 00
Textile,	12	3,835	12	3,835			8	2,516	8	2,516			32,478 00
Metal,	18	6,139	16	6,001	2	138	10	5,465	9	5,345	1	120	115,328 00
Mining,	21	7,145	13	4,877	8	2,268	14	3,868	8	2,710	6	1,158	101,300 00
Public service,	7	934	7	934			2	478	2	478			34,590 00
Tobacco,	3	235	3	235									9,553 00
Miscellaneous,	8	1,904	6	1,379	2	525	2	535	1	35	1	500	14,250 00
Mercantile,	1	18	1	18									3,000 00
Total,	89	35,101	77	32,170	12	2,931	44	26,927	36	25,149	8	1,778	$457,034 00

TABULATION OF STRIKES BY COUNTIES.

Industry.	Strikes Reported During Period.						Strikes in Which Department Mediators Acted.						Wages.
	Total number.	Employes involved.	Settled.	Employes involved.	Pending.	Employes involved.	Total number.	Employes involved.	Settled.	Employes involved.	Pending.	Employes involved.	Estimated loss.
Allegheny,	4	4,510	4	4,510			3	4,440	3	4,440			$111,190 00
Berks,	1	100	1	100									250 00
Cambria,	11	3,990	5	2,050	6	1,940	9	2,880	5	2,050	4	830	36,000 00
Carbon,	2	765	2	765			1	265	1	265			10,975 00
Clearfield,	6	1,063	4	735	2	328	5	663	3	335	2	328	28,500 00
Columbia,	3	1,646	3	1,646			2	1,630	2	1,630			75,744 00
Dauphin,	1	1,000	1	1,000									30,000 00
Delaware,	6	1,164	5	1,146	1	18							18,355 00
Erie,	1	130	1	130									1,600 00
Fayette,	1	200	1	200									1,000 00
Jefferson,	3	216	3	216			2	190	2	190			8,390 00
Lackawanna,	2	160	2	160									4,060 00
Lancaster,	2	53	2	53			2	53	2	53			795 00
Lebanon,	1	60	1	60									500 00
Lehigh,	6	702	6	702									3,684 00
Luzerne,	10	2,932	10	2,932			4	1,998	4	1,998			25,830 00
McKean,	1	20	1	20									88 00
Montgomery,	2	210	2	210			2	210	2	210			5,629 00
Montour,	2	232	2	232			2	232	2	232			8,800 00
Northampton,	2	455	2	455									4,800 00
Northumberland,	2	1,000	2	1,000			2	1,000	2	1,000			8,180 00
Perry,	1	250	1	250									1,100 00
Philadelphia,	6	784	4	639	2	145	3	515	2	395	1	120	19,175 00
Schuylkill,	3	308	3	308									15,725 00
Somerset,	1	180	1	180									1,200 00
Venango,	1	400	1	400			1	400	1	400			1,200 00
Washington,	2	1,010	2	1,010			2	1,010	2	1,010			3,760 00
Westmoreland,	4	11,028	4	11,028			3	10,941	3	10,941			21,504 00
York,	2	533	1	33	1	500	1	500			1	500	9,000 00
Total,	89	35,101	77	32,170	12	2,931	44	26,927	36	25,149	8	1,778	$457,034 00

PREVENT ACCIDENTS BY CONSTANT CAREFULNESS. MANY DEATHS OF INDUSTRIAL WORKERS IN PENNSYLVANIA RESULT FROM MOST TRIVIAL CAUSES.

A SUGGESTION FOR EMPLOYERS.—The paragraphs in the following pages describe accidents which caused fatal and serious injuries to workers in Pennsylvania. These paragraphs are not fiction; they present actual happenings as revealed in accident reports received at the Department of Labor and Industry. Each of these paragraphs tells a story that may encourage workers to think more seriously of the trivial causes that may bring death or extreme suffering. It is obviously impossible for the Department of Labor and Industry to place these narratives of accidents in the hands of every individual worker in Pennsylvania, but to accomplish such result, employers of Pennsylvania can co-operate with this Department.

If every employer will choose, from the following paragraphs, those narratives of accidents which might occur in his plant and have them reproduced either on handbills, for distribution among the workmen, or in the plant publications, it will be possible for every worker in the State to receive these short stories, each of which is a safety preachment. There is no copyright nor any restriction to prevent reproduction of any safety material included in this Bulletin. It is issued for the benefit of labor and of industry.

Reports of serious and fatal industrial accidents received at the Department and reviewed in the Division of Industrial Hygiene and Engineering and in the Division of Accident Investigation of the Bureau of Inspection disclose that many of these accidents are preventable. Some of the fatalities are due to what could apparently be considered as very trifling causes. Descriptions of some of these accidents are given in the following pages. These accidents emphasize the need of constant carefulness.

* * *

Burned to Death.—An engineer at the power house of a large institution fell asleep and allowed his fire to go out. Upon awaking, he secured some waste, saturated it with kerosene and lighted the fire.

Although he had had twenty-five years' experience as a fireman and engineer, he thoughtlessly failed to open the damper when he rekindled the fire. When the door was suddenly opened, the flames shot outward and ignited his clothing, inflicting burns that caused his death three days later.

* * *

Banter.—Three riggers started to lift a piece of pipe, weighing 270 pounds, and to carry it to a place about thirty feet distant. As the result of a wager one of the men attempted to do this alone. The pipe was placed upon his shoulders and when he had walked about

twenty feet of the distance, the end of the pipe struck a freight car, causing him to lose his balance. The weight of the load forced him down and his head was caught between the pipe and the walk, fracturing his skull and causing instant death.

* * *

Glove Caught in Cable.—Persons operating machines, or working around machinery, should not be permitted to wear loose fitting or ragged clothing, flowing neckties or torn gloves.

Recently an employe of an electric company was engaged in taking a cable off of a reel and placing it on the drum of an electric hoisting engine. This operation required the man to hold the cable in one hand. While he was so engaged, his glove caught between the cable and the drum, pulling him over the latter and causing his head to strike the floor. He was injured so badly that he died the next day.

* * *

Death from Fall.—Many serious and many fatal accidents are caused by falls due to scaffolds breaking. It is therefore very important that the work of constructing scaffolds should be carefully and thoroughly done, and that nothing but selected first class material should be used in building them.

Recently an employe of an electric manufacturing company was making some repairs to a fan support under a ceiling. He was using the traveling crane as a base for his scaffolding, and he had placed several planks across between girders which were about six feet apart.

The planks he selected were 6″ by 2″, and carelessly or thoughtlessly, he used one with a knot which extended half across the plank. When he stepped on the plank, it broke under his weight and he fell to the floor, sustaining injuries from which he died.

Although the employe was an experienced rigger who had been doing this class of work for years, and was, moreover, in charge of the work at the time of the accident, he failed to select first class material even though there was a large supply of lumber nearby to choose from.

* * *

Carelessness.—While engaged in placing a temporary door frame in an elevator hatch an employe of an engineering company was instantly killed on account of the carelessness of the elevator operator in not signaling before starting the car, and on the part of the foreman in not suspending the operation of the car while the repairs were being made.

The victim of this distressing accident was down on his knees placing a wooden block at the lower corner of the frame. He failed to notice that the elevator was above him. While he was in this stooping position, the operator, without giving a signal, started to lower

the elevator. In its descent the repairman's head was caught between the floor and the bottom of the car and the top of his head was cut off.

* * *

Rested in Dangerous Place.—The practice of employes resting in places of danger often results fatally, and the strict supervision of those in charge of the safety work is required to overcome this menace. Only by the adoption of drastic measures can this practice be eliminated.

Recently an employe of a steel company went under the arch of the "coke quench car run" to take a nap. While he was lying there the coke car, loaded with hot coke, came along. In some manner the latch on the car doors came open and the hot coke came down, blocking the arch and in the man's endeavor to escape, he had to crawl out of the yards over the hot coke. This resulted in his being so badly burned that death occurred shortly afterwards.

* * *

Horseplay.—Many a thoughtless or careless act results in injury to the perpetrator of it, and not infrequently to other persons as well, as noted in the following incident:

While an employe was dozing beside a stove in a steel plant, a joker secured a piece of greasy rag and ignited it at the stove with the intention of "smoking him out." However, in some manner the burning rag set fire to the joker's clothes and before the flames were extinguished he was burned so badly that he died the next day.

When employes realize that the unavoidable dangers of a plant are great enough, heedless horseplay and chance taking will be eliminated.

Thoughtlessness.—An employe of a large manufacturing establishment spilled some gasoline on his clothes while filling a can from a storage tank. While his clothes were in this condition, he attempted to light a cigarette. An explosion followed, and the man was badly burned about the chest and abdomen. Although a fellow employe quickly secured a blanket and smothered the flames, the man was burned so badly that death resulted the next day.

* * *

Disregard of Safety Rules.—Although rules and regulations prohibited the oiling or repairing of machinery while in motion, an employe of a fertilizer manufacturing plant placed a ladder against the moving line shaft and attempted to oil the bearings. His blouse caught on the shafting and he was whirled around and crushed against the rafters.

* * *

Taking a Nap.—An employe of a steel company went behind a scrap pan in the pouring pit to take a nap. A pan from the adjacent

pit was hooked up by the craneman and transferred to the side of the other pan and on being lowered, it dropped on the man's head killing him instantly. It had been the practice of some of the men to lie down and sleep behind these pans, and in the above instance, it was impossible for the craneman to see the man, as he was lying on the opposite side of the pan.

* * *

Drank Poison for Water.—Recently an employe of one of the large manufacturing companies, feeling faint, went to get a drink of water. The man had been ill for a time. He was subject to fainting spells. It is supposed that not being in full possession of his faculties, he mistook a glass jar containing cyanide of potassium for drinking water. He drank freely from the jar, with fatal results.

It is highly important that all bottles, jars, flasks or any other receptacles containing poison of any kind should be conspicuously labeled "POISON," and these containers should be placed separate and apart from harmless liquids, especially from drinking water.

* * *

Poor Housekeeping.—Many accidents have been caused by the improper piling of material, or in not piling it at all and allowing it to lie around "any old way."

An employe of a machinery manufacturing company, while walking from his bench in the wood working department across the floor to the time clock to "ring out," caught his foot in a short piece of board which someone had carelessly let lie on the floor, and he was thrown with such force that his hip bone was broken just below the socket, resulting in death twenty-five days later.

* * *

Loose Shoe String Cause of Death.—Recently, an employe of a large manufacturing establishment was coming down the stairway from the third floor of the warehouse, when the lacing in one of his shoes came untied. He continued to go down the stairs and when about five steps from the landing, he stepped on the flowing shoe lacer, which threw him, and he fell striking his head and shoulders on the bottom step with such force that he died the next morning.

* * *

Neglect of Wound.—Recently an employe of a radiator manufacturing company was endeavoring to remove shellac from a glass jar equipped with a tin top. In some manner his finger was slightly cut and thinking it of little importance, he wrapped it with a dirty rag and gave it no further attention.

He was absent from work a few days immediately after the injury; his foreman called at his home to find out the cause of his absence and found that the wound had become infected and the man died one week later.

Nail Puncture.—An employe of a contracting firm while engaged in excavating, preparatory to the erection of a retaining wall for a new building, stepped on a nail which punctured his foot. He removed the nail from his foot without reporting the injury and continued to work for the remainder of the day. Six days later lockjaw developed and he died.

In view of the fact that many fatalities have occurred from neglect to have apparently slight injuries immediately and properly treated, this Department is urging that this matter be given prompt and careful attention and suggests that those in charge of the safety work in the various industrial establishments, throughout the State, exercise strict supervision in regard to these trivial or slight injuries.

Strict rules should be adopted and rigidly enforced to prevent nails lying on floors and benches, and especially nails that are rusty or dirty. Nails that project from planks, boards or wooden objects of any kind should be at once removed or driven in, or be bent over and the points be driven in.

If immediate attention can not be given to attend to the nails, the boards, planks or pieces in which they appear should be laid up in orderly piles with the point of the nail turned downward, but as soon as possible these piles should receive attention and the nails removed.

* * *

Thoughtlessness.—The janitor of a public building after stoking the fire in the furnace thoughtlessly placed some oily waste in his pockets and stood with his back to the fire. The waste ignited and set fire to his clothing. He was so badly burned on the hips and legs that death resulted.

* * *

Thoughtlessness.—Considerable grease had collected upon the large calendar rolls of a paper manufacturing company and a man was cleaning them with a gasoline blow torch, as was customary. He had occasion to go underneath the machine, and he thoughtlessly set a lighted torch on the edge of the machine, and it fell on him when he was underneath the gears. His clothing caught fire and he was so badly burned that he died the next day.

* * *

Thoughtlessness.—Many serious and fatal injuries result from workmen thoughtlessly selecting dangerous places in which to rest, and the following is an account of one of several accidents occurring from this cause.

A laborer at an open hearth went out on the railroad track where a draft of four cars was standing, and sat down on the rail in the shade of the end car to rest. While he was sitting there, a draft of six cars was pushed in on the siding, and bumped into the four cars already there and the man was run over and instantly killed.

Breaking of a Scaffold Results in Death.—There have been in the last two years a number of accidents with a fatal termination due to the breaking of a scaffold and these accidents would emphasize the importance that all persons who have to use scaffolds of any kind should be careful to comply with the new Scaffolding Code, about to be issued by the Department.

Construction of scaffolds of either unsafe or improper material is only courting serious injury or death, and both employer and employes should exercise great care and see that all scaffolds are constructed so that they will safely stand the load which they are intended to bear.

* * *

Septic Infection from Slight Injury Causes Another Death.—If there is anything which is unnecessary, it is the large number of fatalities due to septic infection following the neglected small injuries, and one of these recent fatal cases, is as follows:

"A man was handling freight when a splinter penetrated sole of shoe and entered his foot. He did not report the injury for nine days, at which time, septic infection had resulted, and five days later, he was dead." If this man had reported his injury and received proper medical attention immediately, there is every reason to believe that he would be alive and supporting his family today.

Every employer and employe should know and realize that the slightest injury, if not properly attended to by a licensed physician, is a potential case of septic infection, which may end fatally. Every person should be cautioned, no matter how insignificant an injury may be, that it should be promptly reported, and should receive the proper treatment. Delay is dangerous and may be followed by fatal consequences.

* * *

Sleeping at Work Terminates Fatally.—Two recent fatal accident reports emphasize the danger of employes going to sleep when on duty.

A man went to sleep alongside of a blast furnace and was killed by escaping gas.

Another man who had been instructed to unload a car of coal went to sleep on the top of car, which car was struck by a moving car, and he was knocked off, falling under the wheels and was killed.

* * *

Horseplay Ends Fatally.—Two men started joking with each other; in the course of their fooling, one man threw up his hand to protect himself and brought it in contact with an electric light switch and he received a fatal electric shock.

Broken Chain Causes Fatal Accident.—The importance of testing and inspecting all chains is emphasized by a recent fatal accident, in which the breaking of a chain caused some heavy material to fall, killing an employe who was standing quite a distance away.

* * *

Attempt to Get on Moving Elevator Ends Fatally.—The only way in which it is possible to get on an elevator with safety is while the elevator is still, and the Department has received a large number of reports of accidents which have terminated fatally as employes tried to get on moving elevators, losing their balance or tripping and falling, being caught between the elevator and its shaft. Every person should be warned that the attempt to get on a moving elevator will probably end with a fatal result.

"GET OUT FROM UNDER!"

If the warning noted above had been observed in all shops and factories in this State this year, at least fifty or more lives would have been saved. On the contrary, however, employes have violated this most important rule, and as a result, too frequently, accident reports are received showing serious or fatal accidents resulting from material, which is being lifted, falling on some one underneath.

The danger of suspended loads is one which is frequently forgotten by those who are accustomed to work around places where it is necessary to lift and carry material. If material has been lifted and carried by cranes or other apparatus in safety for some time, those working with such apparatus forget the possibility of breaking tackle, with the subsequent dropping of the load, and the chances of serious or fatal injury to any person underneath.

Almost every accident report, telling of accidents of this nature, shows that such accidents would not have happened if those injured had only taken ordinary precautions and remained out from under these dangerously suspended loads.

Broken chains or ropes, hooks which have slipped, or loads which have been improperly fastened, slipping, are some of the frequent causes of material dropping. One of the members of the Division of Industrial Hygiene and Engineering was recently making an inspection in a factory, and noticed a bunch of long strips of iron being hoisted by a crane and carried down the aisle. The load was not fastened properly and was tipped up at a dangerous angle. Besides, as it passed down the aisle, men who were working underneath the place over which the load was being carried made no effort to get

out of the way. The matter was called to the attention of the superintendent and he admitted it was bad practice, as, frequently, pieces had in the past slipped out, but fortunately no person so far had been hurt. He was urged to discontinue the practice and he stated that he would endeavor to have the men instructed to fasten properly all loads and to have cranemen warn others to keep away from hoisted material.

On his return to the Harrisburg office, the member of the Division found an accident report had just been received which told of a fatal accident which occurred as a result of a similar condition in another factory. Some employes were lifting a bunch of pipe. The load shifted in some way and a stray pipe fell from the bunch and struck a man on the head. He died as the result of a fractured skull.

Do not let us wait, to see that the rule "Get Out From Under" is observed in our shops, and is in force at all times, until we have had a fatal accident. Each superintendent, manager or foreman should make frequent observations along this line to see if the rule is being carried out by those under his charge. Furthermore a periodic inspection should be made by some competent person to see that all hoisting apparatus and material—chains, ropes, slings, hooks, etc., are in a safe and serviceable condition.

UNPROTECTED ELECTRICAL EQUIPMENT A MENACE.

An examination of the accident reports, received every day at the Department clearly shows an alarming increase in the number of deaths which are occurring annually as a result of shocks caused by employes coming in contact with charged electrical equipment. As a result, the Industrial Board has adopted an Electrical Code, to regulate electrical equipment.

Electricity is being used more every day in industry, and as a result, there are increasingly more chances that the lives of employes may be endangered if steps are not taken by those in charge of industry to see that such equipment is kept at all times in a safe condition, and that only those who are competent are allowed to handle, repair, or replace electrical apparatus.

Unprotected open switches seem by far to be the greatest danger. Very frequently an employe makes an attempt to operate such a switch and as a result of reaching out carelessly and not watching

what he was doing, his hand comes in contact with the "live" portions of the switch and another person is liable to be badly burned or possibly killed through his own carelessness. And yet the careless person is not only to blame, since that accident could not have happened if a safe type of switch had been installed in the first place.

Only a short time ago two employes who had a slack period of time on their hands thought they would make use of it by fooling with one another. During their tussling the one's head came in contact with the light switch and he was electrocuted. Within a space of about two weeks two other reports were received by the Department showing two other deaths caused by contact with open switches.

The enclosed switch with all "live" parts covered up and the cover grounded is the only safe kind of an electrical switch which should be permissible with dangerous voltages in any establishment in which other than experienced electrical men handle the equipment.

Improperly erected electrical apparatus or wiring, or that which has become unsafe through use or other causes is another condition which from time to time is taking its toll from among our workers. Too often electricians take a change and in order to save time, when time is at a premium, put up a temporary job expecting they will come back to this place a little later and make everything right. The necessity for this is forgotten or the slack time never arrives and accordingly a condition continues in that factory which is a continual hazard, not only from the standpoint of the employes' safety, but also of the safety of the factory from fire.

A case in question is well worth citing. An employe has placed his dinner bucket upon a projecting ledge. In raising up he struck his head against a feed wire which had in some manner been displaced, possibly by the jarring of the building, and he was electrocuted.

A periodic inspection by a competent person of all electric wiring and apparatus is an absolute necessity. It not only would insure that hazards to life are removed, but it might also be very instrumental in reducing the large number of fires which are unnecessary, and which are due simply to the fact that electrical apparatus and wiring, so long as they perform the function for which they were installed, are left alone and not given the care and attention to which they are entitled and deserve.

Carelessness on the part of an employe can never be an excuse for death from electrocution as long as employers do not eliminate hazards which have been clearly shown to be responsible for deaths in the past.

Copies of the Electrical Code, which is now operative, may be obtained from the Department of Labor and Industry, Harrisburg, Pa.

HABITS OF HEALTH INDISPENSABLE TO INDUSTRIAL EFFICIENCY.

The chief aim of education is to train the individual to do the right thing at the appropriate time without having to think. The skill of the musician, the artist, the mechanic, and the surgeon is obtained only by ascetic training of the body muscles to do reflexly the work of the brain. The lower nerve centers become storehouses of brain energy, just as central power plants store up electric energy to be supplied to lighting and transportation systems according to their needs.

From habit, we all have a definite routine manner of performing certain offices in our daily life, which our higher thought-centers know hardly anything about. For example, few men can tell offhand which sock or shoe they put on first—they must first mentally rehearse the act. Thus the varied activities of our daily life become automatic and habitual, leaving free the higher powers of the mind for the performance of their own peculiar work. By this adjustment, habit simplifies and coordinates our movements, economizes the expense of nervous and muscular energy, and diminishes the conscious attention with which our acts are performed. It is a matter of experience that the formation of a system of habits is both a primal necessity, and also the resultant of the co-operation of the most fundamental principles of both the bodily and the mental development.

Make the Nervous System an Ally—Not an Enemy.

The great object, then, in all education is to make our nervous system our ally, not our enemy. To accomplish this end in relation to habits of health, it is necessary to make automatic and habitual, as early as possible, as many acts as we can which will promote our physical well-being, and to guard against growing into ways that tend to operate to our disadvantage.

The essential factors of industrial efficiency—the employe, his product, his trade or occupation; the employer, the employer's profit, the employer's production, and the national output, are either helped or injured by the method of living of each individual. If each one of us were fully convinced of the truth of this fact, we would insistently impose habits of health upon all industries, and upon their employes and operatives.

It is generally recognized that chronic habits of unhealthy living produce industrial inefficiency. The most striking illustration is fur-

nished by the alcoholic individual. The sufferings of his family are serious enough, but, because his mental and physical nature is blighted, he is not punctual to work, disobeys instructions, is wasteful, jeopardizes others' lives, cuts down the product of his trade and of his employer, lessens the profit of both, causes reduction of wages, and increases the risk of insurance and business. Moreover, habits of drinking usually go hand in hand with other habits inimical to business and incompatible with integrity. Therefore, people who are not drinkers are sought out for positions of trust.

Collectively considered, the milder forms of unhealthy living greatly embarrass industrial efficiency. Many competent people fail to obtain advancement because they are uncleanly, their breath offensive, teeth unsightly, and their clothing untidy. Men of genius frequently achieve only mediocre success because they fail to cultivate habits of cleanliness and health.

Subtle Dangers of Faulty Personal Habits.

Losses from alcoholism among employes are easily controlled because they are usually flagrant, and therefore apparent. On the other hand, losses from faulty personal habits, bad housing conditions, and vicious amusements are subtle, and therefore more difficult to anticipate and remove. For this reason, it is difficult to convince a worker that habits of health and cleanliness will increase his earning capacity just as surely as intemperance will decrease it.

Health habits, to be serviceable, must be made instinctive; this is brought about by a continued conscious effort till the body is accustomed to them. When this has been accomplished, the body not only automatically attends to its health needs, but rebels at their omission. Considerable discomfort often reaching a degree of body pain is experienced in readjusting a healthy body to a stuffy workroom, after a summer vacation out-of-doors. To many people, the morning bath is a trial at first, then a pleasure and finally a need, if omitted, the body experiences discomfort and a sense of lassitude prevails early in the day.

There are many hindrances to habits of health in the factory, as well as in other places; wherever they exist, conscientious effort should be put forth to root them out. Individual prejudice must be overcome before we can breathe clean air everywhere. Ventilation of workroom or office is impossible as long as some workers are afraid of fresh air. So long as people are skeptical of the value of night air, they will sleep with the windows closed. They are in a sorry plight, for they can breathe but one kind of air at night—that is, night air. Lack of definite habits regarding the use of the toilet and bath will cause constipation and bad circulation. Indigestion is unavoidable,

if workers are not allowed lunch periods and closing hours that permit meals to be eaten regularly and without hurry.

Health habits should be publicly subsidized in order to protect industrial efficiency. Accessible lavatories have greatly reduced the inefficiency of workers, which was due to constipation and congested kidneys.

Factory, shop, and tenement supervision, restriction of hours of labor, prohibition of child labor—all these welfare movements inculcate in the people of the community, where they operate, habits of health which promote efficiency.

Health Habits for Industrial Workers.

What are the health habits that an industrial worker should acquire instinctively and exercise spontaneously? To establish set rules about health habits would be a Herculean task; in fact, such rules would often work harm. Such matters must be decided for each individual as determined by experience and the need of the body. A daily routine, flexible in character so as to admit of a wide range of application, would furnish a practical means of safeguarding health, commensurate with the needs of any individual. To this end, the following outline is offered as suggested by W. H. Allen, in his book, "Civics and Health":

"1. Throw the bedding over the foot of the bed.
"2. Close the window that has been open during the night.
"3. Drink a glass of water.
"4. Bathe the face, neck, chest, armpits (finishing, if not beginning, with cold water), and particularly the eyes, ears, and nose. If time and convenience permit, bathe all over.
"5. Cleanse the finger nails.
"6. Cleanse the teeth, especially the places out of sight and hard to reach.
"7. Breakfast punctually at a regular hour. Eat lightly and only what agrees with you.
"8. Visit the toilet; if impracticable at home, have a regular time at business.
"9. Have several minutes in the open air, preferably walking.
"10. Be punctual at work.
"11. As your right by contract, insist upon a supply of fresh air for your workroom with the same emphasis you use in demanding sufficient heat in zero weather.
"12. Eat punctually at noon intermission; enjoy your meal and its after effects.
"13. Breathe air out of doors a few minutes, preferably walking.
"14. Resume business punctually.
"15. Stop work regularly.
"16. Take out-of-door exercise—indoor only when fresh air is possible—that you enjoy and that agrees with you.
"17. Be regular, temperate, and leisurely in eating the evening meal; eat nothing that disagrees with you.
"18. Spend the evening profitably and pleasantly and in ways compatible with the foregoing habits.

"19. Retire regularly at a fixed hour, making up for irregularity by an earlier hour next night.
"20, 21, 22. Repeat 4, 6, 8.
"23. Turn underclothes wrong side out for ventilatiou.
"24. Open windows.
"25. Relax mind and body and go to sleep."

WASHING FACILITIES IN WORK PLACES.

Even the most ignorant and unintelligent person if asked the purpose of washing facilities would without hesitation say that they are provided to promote cleanliness. Before a child is able to talk, it knows that the combination of dirty hands and washing, results in clean hands. Few people, however, stop to think that washing serves other ends than merely the cleansing of the skin from accumulations of foreign matter.

The skin is supplied with a network of fine blood vessels and nerves. The nerves governing the caliber of the blood vessels are extremely sensitive to any change in temperature, heat causing these vessels to expand and cold causing them to contract. As there is a definite amount of blood present in the body, if one part has its supply increased, other parts of the body will be depleted by just that much. An increase in the blood supply to any part of the body causes increased activity in that part and decreased activity in the parts from which the blood has been drawn. On a hot summer day there is a large amount of blood distributed to the skin, the skin becomes active as can be observed in the free secretion of perspiration. At the same time there is less blood in the rest of the body, and because of this all the other functions are performed more slowly and there is a general feeling of languor and relaxation.

A hot bath, by the same process, produces the same effect. On the other hand a cold bath contracts the blood vessels of the skin thus driving the blood to other parts of the body, causing in them increased activity. This activity is especially noticeable in the kidneys, whose function is to carry away the waste products formed constantly in the body, which products if retained and allowed to accumulate produce the feeling of fatigue and exhaustion.

The terms hot and cold as applied in this instance do not mean any great variation from the normal temperature of the body, as the skin is so sensitive an organ that the variation of a few degrees in either direction is very quickly appreciated. Under ordinary circumstances it is unwise to expose oneself to either a hot bath or a

A FIRST LINE DEFENSE AGAINST DISEASE

This battery of equipment for cleanliness not only guards workers against illness, but actually improves health and increases efficiency. Photograph reproduced by courtesy American Pulley Company, Philadelphia.

cold bath suddenly, the preferable method is to begin the bath at body temperature and then rapidly to cool or heat the water to the desired degree.

For cleansing purposes it is usually desired that the water used be warm or hot; in work places this purpose is the chief end of all washing. In order to preserve the tone of the skin and to guard against undue relaxation, it is a good plan always to follow a warm bath or even the washing of the face and hands with warm water, by a dash of cold water. This practice has an added advantage in that it accustoms the skin to sudden changes in temperature and in this way guards against colds, influenza, tonsilitis, pneumonia, and other states of ill health in which sudden changes of temperature are frequently regarded as one of the causative agents.

The kind of washing facilities supplied varies of course with the nature of the occupation in which the workmen are engaged and with the number of persons employed. It goes without saying that the fixtures provided for an office force of two or three, for a textile mill employing five hundred men and women, and for a steel mill employing a thousand men, must differ widely.

Up to the present time the laws of Pennsylvania require shower baths in only two classes of establishments—in plants engaged in the manufacture of certain lead compounds, and in foundries employing twenty or more men. In these places such installations are obligatory, but many progressive employers in other industries have of their own volition supplied shower baths, and having supplied them, possibly from a humanitarian motive, have found them actually yielding a profitable income on the money invested as shown in the improved health and increased efficiency of the workers affected. Every employer having workmen engaged in occupations in which they are exposed to dusts, or poisons, or in trades where they of necessity become much soiled during the course of their day's work will find it much to his advantage to install shower baths with comfortable dressing rooms.

It may at first seem a waste of money; for employes unaccustomed to these conveniences will not at once take advantage of them. A little education judiciously applied in places where it will do the most good, that is upon the workmen who are the leaders among their fellows, will in a short time certainly produce results. A man with hands and face so covered with grease and dust that it is impossible to tell whether he is black or white cannot possibly mingle with his fellows on the street or in a crowded street car on his way home from work, and possess the same self-respect that he would have if his person and clothing were in such condition that those with whom he comes in contact would not shun him.

Shower baths are not necessary in all industries but every establishment in which people are employed should certainly provide some facilities for washing. And such facilities should not consist of a small sink, in a dark out-of-the-way corner of the workroom, equipped with one spigot supplying only cold water, but should be in a light, well ventilated place, easily accessible to all workers, so arranged as to insure privacy, and supplied with hot as well as cold water.

In this connection the subject of towels is mentioned to remind the public that it is against the law for any person to provide public towels to be used in common by several persons before being again laundered. Every employer should see to it that an ample supply of clean towels is provided so that each employe may have his own individual towel, or linen towels should be discarded entirely and paper ones substituted, when there will be no chance for the spread of infection through the medium of the common towel.

With the responsibility of the employer to provide proper washing conveniences there falls upon the workman two duties which if neglected will not only nullify all that the employer has done, but will also work to the disadvantage of the employe himself. These two duties are to use the basins and the shower baths, and to use them properly. By using them is meant frequent and thorough use. In a large factory, recently, just before noon, the girls were seen to drop their work at the sound of the whistle, rush for their wraps, put on their hats, coats, and gloves, and although an ample number of basins were supplied in the dressing room very few of them were used. Some of these girls in a near by restaurant were later found eating their midday meal, holding in an unwashed hand a piece of bread or a sandwish. The work they had been engaged in was what might be called clean work, that is it did not visibly soil their hands. If it had done so they would undoubtedly have washed them thoroughly. What if one of those girls had been suffering from unrecognized tuberculosis? The girls sitting near her could not know that each time she coughed she was scattering about her, numerous tubercle bacilli to settle on the furniture or upon the work.

They did not know that when their hands would come in contact with these germs they would remain their until removed by washing or until pressed into the food by the hand and thus carried to the mouth, and perhaps in that person to set up a case of tuberculosis which if not proving fatal, would at least be disabling for a long time.

Typhoid fever is another disease that is so frequently carried by hands that may not appear soiled to the naked eye, but which having come in contact with the germs, innocently make of their owner a victim of his own carelessness or ignorance. While clean hands may

not be essential for certain work, they are always a mark of care and of neatness, and at meal-time if they are not clean they are an actual menace.

Every person using washing facilities should remember his neighbor. The first person to use a basin should see that the following one does not have to turn away in disgust. If each person would see that the basin he uses is left in the condition in which he found it there would be no trouble on this score. The contrary is too often found—a basin almost lined with a dark gray, gummy film, or a basin left half full of dirty water. Such misuse of these conveniences annoys fellow workmen and discourages the employer.

Most people know how to use washing appliances and it is only carelessness or thoughtlessness that produces these unpleasant conditions. Often a little reminder is all that is needed to recall to each person his duty in this matter. With this in view the Department of Labor and Industry has had printed the following small posters suitable for wash and toilet rooms:

ATTENTION.

These conveniences have been installed for your use, not for your abuse.

Use basins freely but leave them empty and clean.

Flush toilets thoroughly after using.

Never throw rubbish into toilets. Put it in the places provided for that purpose.

With proper use plumbing takes care of itself.

Careless use of these conveniences causes you discomfort and endangers your health.

Do not allow the indifference of yourself or others to menace your health. Report any misuse of these accommodations to the property authority at once.

Issued by
The Pennsylvania Department of Labor and Industry,
John Price Jackson, Commissioner.

Form I-40

These cards eight and one-half by five and one-half inches in size, may be obtained by applying to the Department of Labor and Industry, Harrisburg, Pa.

Prevention of infection, improved health, removal of the fatigue poisons, refreshing of the body, and of course always removal of filth —is not proper bathing worth while when all these things may be accomplished?

Self-respecting workers, efficient service, and contented industrial family—are not ample, comfortable bathing facilities a good investment if these things follow in their train?

PREVENTION OF ACCIDENTS AT PASSENGER AND FREIGHT ELEVATORS IS THE PURPOSE OF ACTIVE EFFORTS MADE BY THE DEPARTMENT OF LABOR AND INDUSTRY.

Rigid inspections of passenger and freight elevators in factories and other establishments in all sections of the Commonwealth, excepting in cities of the first and second classes, are constantly being made and reports of those inspections are reviewed in the Bureau of Inspection and the Division of Hygiene and Engineering of the Department of Labor and Industry.

Those inspections are made by inspectors who have passed examinations conducted by the Department of Labor and Industry and are consequently known as approved inspectors. They hold commissions issued by the Department and their reports, made to this Department, are carefully examined and where elevator defects, either dangerous or minor, are discovered instructions are issued immediately through the Bureau of Inspection, of the Department of Labor and Industry, for elimination of the defects.

The Elevator Code of the Industrial Board governs the erection of all elevators in the State excepting in first and second class cities, where the municipal authorities supervise elevators. The Industrial Board regulations not only regulate for safety all new installations of elevators but also specify mechanical and electrical safeguards for existing installations.

Since these State regulations have been in force, it has been disclosed by reports of accidents at elevators that most of these accidents were due to negligence or carelessness rather than to defective equipment.

A great task confronting the Department of Labor and Industry, in its efforts to protect operators of elevators as well as employes and the general public from accidents, is to educate each individual to take every reasonable precaution against accidents at elevators and not to take chances. The efforts of the Department, during the last year, in inspecting elevators, to make sure that they are properly constructed, equipped and operated, and in trying to educate the public in safe practices, are showing gratifying and satisfactory results, but neither continuous inspection nor ordinarily safe equipment can insure safety against carelessness or recklessness.

In one instance the safety lock on a semi-automatic gate was plugged by an elevator operator and thus the lock was rendered in-

operative. At this same elevator, the gate at the entrance to the shaftway on the fifth floor of the building was "plugged open," leaving the shaftway entrance on that floor unprotected. An employe walked into the unguarded opening and fell to the cellar. He was so badly injured by the fall that he died before he could be taken to a hospital.

In another case a fifteen-year-old boy climbed over a gate at a shaftway entrance. The elevator was passing the gate at the time and the boy's body was caught between the car platform and the ceiling. His body was terribly crushed.

During the month of May, plans and specifications covering the erection of 47 new elevators were checked and approved in this Department and, from inspection reports, the following defects were discovered in existing installations and prompt action was taken for their elimination:

Cables—dangerous,	19
Cables—slightly defective,	31
Safeties—dangerous,	4
Safeties—slightly defective,	9
Unclassified defects—ordinary,	75
Unclassified defects—dangerous,	86

Plans and specifications covering the erection of forty new elevators and twenty-one re-erection and repair jobs were checked and approved during June and the following defects on existing elevators were discovered and eliminated:

Speed governors—defective,	2
Drums—slightly defective,	5
Drums—dangerous,	2
Safeties—dangerous,	7
Brakes—slightly defective,	11
Cables—dangerous,	17
Cables—Slightly defective,	30
Unclassified defects—dangerous,	73
Unclassified defects—ordinary,	102

Plans and specifications covering the erection of 56 new elevators and five re-erections and repair jobs were checked and approved during July and the following defects were discovered and corrected:

Speed governors—dangerous,	2
Cables—slightly defective,	21
Cables—dangerous,	15
Drums—dangerous,	4
Controllers—dangerous,	6
Unclassified defects—ordinary,	96
Unclassified defects—dangerous,	85

LIFE AND PROPERTY SAFEGUARDED BY DEPARTMENT OF LABOR AND INDUSTRY AGAINST DANGERS OF BOILER EXPLOSIONS.

All steam boilers in Pennsylvania, carrying pressure greater than 15 pounds per square inch, must be thoroughly inspected internally and externally each year. The only exceptions to this requirement are boilers of railroad locomotives, subject to inspection under the Federal Laws; boilers on automobiles, and boilers of steam fire engines brought into this Commonwealth for temporary use in times of emergency for the purpose of checking conflagration.

Inspections of steam boilers throughout the Commonwealth are made by inspectors commissioned by the Commissioner of the Department of Labor and Industry. These inspectors obtain their commissions and are authorized to act for the Commonwealth as approved boiler inspectors after they have passed an examination dealing with the inspection, installation, operation, maintenance and repair of steam boilers. These examinations are conducted at the Department of Labor and Industry, in Harrisburg, four times each year, namely, on the first Wednesday in February, May, August and November. All regulations for safety, both in construction and operation of steam boilers, are set forth in the Boiler Code of the Industrial Board and in the rules and regulations for administration of the Boiler Code.

Under the rules of administration of the Boiler Code of the Industrial Board there are approved inspectors located in virtually all sections of the Commonwealth and these inspectors submit to the Department of Labor and Industry, for supervision, all reports of boiler inspections made.

During the month of May, 1917, reports of 3,651 inspections were received; during June, 3,532 reports were received and during July, 4,193 inspection reports were received. These reports, giving in detail the condition of each boiler inspected, are carefully reviewed in the Bureau of Inspection and in the Division of Industrial Hygiene and Engineering. Serious defects in boilers as disclosed by the reports are immediately investigated and action is promptly taken for the elimination of such defects. Minor defects, indicated by the reports, similarly receive prompt attention and the Department is constantly active in advising owners and operators of steam boilers on their safe and economic operation.

Every operator of a boiler should be constantly informed as to whether it is in safe working condition. In order to be so informed and to comply with the law the boiler owner must have an approved inspector examine it once each year and obtain a certificate.

Special attention should be paid to traction boilers of the locomotive type. The lowest permissible water level in a boiler of this type is 2″ above the crown sheet and care should be taken to avoid a lower water level.

The safety valve should be carefully watched to see that it relieves promptly at the allowable pressure and in no case should it be changed to carry other than the stipulated pressure. They should be cautiously and frequently raised from their seats to guard against their failing to relieve at the proper time.

Water gauges are very important to have in thorough working order as well as all the other attachments of the boiler.

Foaming is caused by the entrance of oil or other animal matter into the boiler and can best be controlled by the liberal use of the blow-off and the use of clean fresh water. In cases of violent foaming, due to very dirty water, check the draught and cover the fire with fresh coal or ashes.

When leaks are discovered they should be repaired at once as in time they will cause the wasting of the metal in contact. All heating surfaces should be kept clean and the tubes cleaned often, as much better results will be obtained from the fact of the heating surfaces being clean.

Care should be taken to protect the exterior of the boiler from contact with water or leaky joints to prevent exterior corrosion. When housed for any length of time the exposed parts of the boiler should be painted.

Particular attention should be paid to fusible plugs. They should be kept clean on both sides as otherwise they will fail to perform their part.

The following is the summary of the boiler inspections checked in the Department of Labor and Industry during May:

Total inspections for May,	3,651
External inspections,	1,534
Internal inspections,	2,117
Internal corrosions—serious,	52
minor,	276
External corrosions—serious,	42
minor,	128
Pitting—serious,	31
minor,	208
Grooving—serious,	4
minor,	50

Defective tube ends—serious,	27
minor,	278
Defective furnaces—dangerous,	26
ordinary,	216
Fractures—serious,	1
minor,	17
Defective water gauges—serious,	16
minor,	108
Defective safety valves—serious,	11
minor,	84
Defective pressure gauges—serious,	17
minor,	92
Broken stays,	110
Bulges,	209
Unclassified defects,	1,189
State inspections,	645
Manufacturers' data reports,	174
Casualty companies' reports,	2,171
Serious defects reported eliminated,	163

The following is a summary of boiler inspections during June:

Total inspections during June,	3,532
Internal inspections during June,	2,220
External inspections during June,	1,292
Scale—serious,	125
Scale,	1,140
Internal corrosions—serious,	51
minor,	246
External corrosions—serious,	40
minor,	135
Pitting—serious,	33
minor,	268
Grooving—serious,	7
minor,	46
Tube ends—serious,	7
minor,	368
Furnaces—serious,	3
minor,	190
Fractures—minor,	12
Water gauges—serious,	33
minor,	192
Safety valves—serious,	17
minor,	85
Pressure gauges—serious,	22
minor,	91
Broken stays—serious,	1
minor,	80
Bulges—minor,	212
Unclassified—minor,	1,237
Condemned,	2
Suspended,	7

The following is a summary of boiler inspections during July:

Total inspections for July,	4,193
External inspections,	1,719
Internal inspections,	2,474
Internal corrosions—serious,	68
minor,	332
External corrosions—serious,	33
minor,	131
Pitting—serious,	31
minor.	332
Grooving—serious,	3
minor,	42
Defective tube ends—serious,	5
minor,	223
Defective furnaces—dangerous,	4
ordinary,	273
Fractures—minor,	26
Defective water gauges—serious,	28
minor.	129
Defective safety valves—serious,	10
minor,	10
Defective pressure gauges—serious,	65
minor,	13
Broken stays,	52
Bulges,	202
Unclassified defects,	1,326
State inspections,	1,082
Manufacturers' data reports,	246
Casualty companies' reports,	2,465
Serious defects reported eliminated,	176

PLANS FOR ERECTION OF FACTORIES, HALLS OF PUBLIC ASSEMBLAGE, HOTELS, APARTMENT HOUSES, MERCANTILE ESTABLISHMENTS AND SIMILAR INSTITUTIONS MUST BE SUBMITTED TO THE DEPARTMENT OF LABOR AND INDUSTRY FOR APPROVAL TO SAFEGUARD OCCUPANTS FROM DANGERS OF FIRE AND PANIC.

Various laws enacted by the Pennsylvania legislature require that plans for the erection of factories, hotels, halls of public assemblage, mercantile establishments and similar institutions be submitted to the Department of Labor and Industry for approval as to safety in construction to protect the occupants of such structures against the dangers of fire and panic.

Plans for such structures are carefully examined in the Department by representatives of the Bureau of Inspection and Division of

Industrial Hygiene and Engineering. The inspection of these plans, in the Department of Labor and Industry, prior to the erection of a building insures that all requirements of the law are met and the hardship which might be involved by changing structural features of a building for which plans had not been submitted, to comply with the law, are thereby eliminated. A review of the work done in examining plans for such structures during the months of May, June and July is given in the following pages:

Among the plans submitted in May for factories to be occupied by large numbers of employes on the several floors were some requiring increased width of stairways over that shown on the plans, together with a more equal distribution of the stairways and exits.

A stairway to be satisfactory must have advantageous location and sufficient capacity for the number of persons who are expected to use it in a given time. The width is principally determined by the number of floors to be relieved. Where there are several floors to be considered, a width sufficient to avoid congestion at floor landings is recommended. It is advisable to arrange for direct exits from the first floor, independent of the staircase leading from the upper floors.

By equal distribution of stairways and exits is meant that the stairways shall be so located that the natural flow of people from the various floors, in case of fire, shall find adequate capacity of stairways and widths of exits from the stairs.

To provide for the loss of the use of one stairway by blocking, in case of fire, the capacity of all stairways should each be at least sixteen and one-half per cent. more than the actual demand under normal conditions.

In addition to the importance of increasing the capacity of the stairways, it is even more important that any stairway located near a highly combustible portion of a building be enclosed in fire-proof partitions and doors.

The Department cannot too strongly urge architects and builders to safeguard all internal stairways by installing fire-proof partitions and doors.

A summary of the month's work shows splendid co-operation with the Department in all sections of the State. There was a marked increase, both in the number of building plans presented to the Department, and in the number embodying all of the present requirements; and also in the number approved by the Department. It is pleasing and encouraging to note the protection given to so many existing buildings by the addition of new fire escapes.

There were ninety sets of new plans submitted which, with revised plans, made a total of one hundred and twenty-two. From this number a total of seventy-seven sets of plans were approved as shown by the following itemized list:

PLANS APPROVED DURING THE MONTH OF MAY, 1917.

Fire Escapes.

Town.	Building.	Cont'r or Arch.	Owner.
Tunkhannock, .	School, ...	Letts & Austin, ...	C. O. George, Sec School Board.
Harrisburg, ...	Store, ...	Smith Fence & Iron Works, ...	Mrs. Astrich.
Lancaster, ...	Laundry & Apts.,	H. M. Bartholomew, ..	W. B. Byer.
Sayre, ...	Apts., ...	Letts & Austin, ...	A. D. Parks.
Nanticoke, ...	Photo Studio, ...	.....	J. P. DeFrancois.
Oil City, ...	Office & Apts., ..	Kline D. Baker, ...	Trax & Parker.
Warren, ...	Library, ...	Hopp Carriage Co., ..	Struthers Lib.
Mifflinburg, ...	Hotel, ...	Kline D. Baker, ...	Hotel Deckard.
W. Springfield,.	School, ...	Kline D. Baker, ...	S. G. Ware, Sec.
Troy, ...	Bank & Lodge, ..	Letts & Austin, ...	1st Natl. Bank.
Wernersville, .	Cottages, ...	W. F. Remppis Co., ..	Grand View San'm.
Harrisburg, ...	Apts., ...	Potts Mfg. Co., ...	G. W. Hummel.
Harrisburg, ...	Hotel, ...	Potts Mfg. Co., ...	Hotel Victor,
Greensburg, ..	Apts., ...	P. Rieseck Co., ...	F. N. Seanor Co.
Sterling, ...	Lodge Hall, ...	Scranton Iron & Steel Co., ...	I. O. O. F.
Altoona, ...	Lodge Hall & Apt.	Geo. W. Anne & Son,.	Mrs. Annie McHall
Lancaster, ...	Store & Lodge, .	Geo. W. Anne & Son,.	S. R. Slaymaker.
Johnstown, ...	Apts., ...	Geo. J. Griffith Iron Works, ...	G. B. Glenn.
Chester, ...	Hotel, ...	J. J. Farnham, ...	E. End Hotel.
Springville, ...	Lodge Hall, ...	Scranton Iron & Steel Co., ...	I. O. O. F.
S. Bethlehem,.	Apts., ...	W. F. Remppis Co., ..	John Urabell.
Harrisburg, ...	Factory, ...	Potts Mfg. Co., ...	Elliott-Fisher.
Allentown,.....	Tenement, ...	Chas. W. Grossart, ...	Mrs. L. Emery.
Towanda, ...	Convent, ...	Portable Tool Co., ...	St. Agnes' Conv't.
Pottsville, ...	Lodge, ...	W. F. Remppis Co., ...	W. S. Cowen.
Reading, ...	Store, ...	W. F. Remppis Co., ...	Erick & Heilman.
Pocono Lake, .	Hotel, ...	Scranton Iron & Steel Co., ...	Geo. Bayer.
Allentown, ...	Office,.....	Bascom & Seiger, ...	Beth. Motor Corp.
Beaver Falls, .	Office, ...	Keystone Ornamental Iron Wks., ...	Union Drawn Steel Co
Leechburg, ...	Exchange, ...	Homestead Iron Works	J. B. Snail.
Altoona, ...	Laundry, ...	Geo. W. Anne & Son,..	C. F. Heinsling.
W. Springfield,.	School, ...	Kline D. Baker, ...	W. Spr'gfd Sch. Bd.

THEATRES.

Beaver Falls,..	M. P. T., ...	Geo. O. Rogers, ...	Mary A. Dawson.
W. Bethlehem,.	M. P. T., ...	A. P. Schultz, ...	U. M. P. T. Co.
Lyndora, ...	M. P. T., ...	Geo. W. Kline, ...	John Isaacks.

PLANS APPROVED DURING THE MONTH OF MAY, 1917—Continued.

Fire Escapes.

Town.	Building.	Cont'r or Arch.	Owner.
Beaver, ...	Theatre, ...	.....	Wortman & Anderson.
Kistler, ...	M. P. T., ...	H. M. L., ...	Mt. Union Refractories Co.
Lititz, ...	M. P. T., ...	.....	C. A. Rosenberg.
Emaus, ...	Theatre, ...	Edward Buss, Mgr., ..	Penn Co's. Ams. Co.

BUILDINGS.

S. Bethlehem,..	Garage & Apts., ..	E. R. Bitting, ...	L. Klein.
Buck Hills Falls, ...	Laundry & Apts.,.	E. R. Bitting, ...	Buck Hills Falls Co.
Reading, ...	Temple, ...	Huehl and Schmid, ..	Rajah Temple.
Lansdowne, ...	New Home, ...	Paul Monaghan, ...	St. Vincent's House.
Hazleton, ...	Factory, ...	Lockwood Greene & Co.	Duplan Silk Co.
Bloomsburg, ..	Hotel, ...	H. W. Howe, ...	James Magee, 2nd.
New Enterprise,	School, ...	Hersh & Hersh, ...	S. Woodbury Sch. Bd.
Allentown, ...	School, ...	.....	Allentown Sch. Bd.
Reading, ...	Factory & Store,.	H. G. Mohn, ...	W. D. Mohn & Co.
Altoona, ...	Apts., ...	D. G. Puderbaugh, ...	F. H. Bartlett.
Reading, ...	Apts., ...	.....	Frank Long.
Huntingdon, ..	Mill, ...	.....	Susq. Silk Mills.
Bloomsburg, ..	Apts. & Store, ...	J. M. Robins & Son, .	J. M. Robins & Son.
Bethlehem, ...	Apts. & Store, ..	A. W. Leh, ...	Clyde Meixell.
Columbia, ...	Apts. & Store, ..	Paules & Sons, ...	Herr & Co.
Lebanon, ...	Apts. & Store, ...	Calvin J. Young, ...	Harry Wolfson.
Boyertown, ...	Apts. & Hall, ...	Calvin J. Young, ...	D. B. Baurer.
Williamsport, .	Mill, ...	F. Arthur Rinhard, ..	Williamsport Silk Co.
Reading, ...	Restaurant, ...	G. L. Gerhard & Son,.	Rustic Dairy Lunch.
Bristol, ...	Factory, ...	G. J. Pappano, ...	Asta Bros.
Trevorton, ...	Fire House, ...	Schweitzer & Osgood,..	Trevorton Boro.
Swissvale, ...	Factory, ...	Hunting-Davis Co., ...	Union Switch & Signal Co.
Erie, ...	Store & Apts., ...	Shutts & Morrison, ...	Mr. Klein.
Reading, ...	Apts., ...	.....	H. J. Althouse.
Reading, ...	School, ...	Muhlenburg Bros., ...	Holy Rosary R. C.
Johnstown, ...	Store, ...	.....	Louis A. Geis.
Harrisburg, ...	Loft Bldg., ...	F. G. Fahnestock, Jr.,.	H. & L. Lowengard.
Harrisburg, ...	Apts., ...	H. T. Byles, ...	W. S. Harris.
New Castle, ...	Lodge Bldg., ...	H. M. Wirsing, ...	L. O. O. M.
New Castle, ...	Office Bldg., ...	H. M. Wirsing, ...	Safe Deposit Trust Co.

BAKERIES.

Scranton, ...	Bakery, ...	W. H. Wolter, ...	Mary E. Howley.
Erie, ...	Bakery, ...	Armin & Schottee C. E.	Old Home Baking Co.

TOILETS AND WASH ROOMS.

Town.	Building.	Cont'r or Arch.	Owner.
Johnstown, ...	T. & W. (Shops),	.....	Nat'l. Radiator Co.
Swissvale, ...	Factory, ...	Hunting-Davis Co., ..	Union Switch & Signal Co.
Pittsburgh, ...	Factory, ...	.....	Stroh Steel Co.

EXHAUST SYSTEMS.

Milton, ...	Shops, ...	.....	Am. Car & F'd'y. Co.
Reading, ...	Shops, ...	Sterling Blower Co., ..	Int. Money Mch. Co.
Frankford, ...	Factory, ...	C. H. Raub, ...	Atl. Asbestos Co.

SUMMARY.

Fire Escapes,	32
Theatres,	7
Buildings,	30
Bakeries,	2
Toilets and Wash Rooms,	3
Exhaust Systems,	3
Total,	77
New Plans Received During May,	90
Revised Plans Received During May,	32
Total Plans Received During May,	122

FIRE ESCAPES ORDERED DURING MAY, 1917.

Inspector.	*Town.*	*Owner.*
J. G. Boyce,	Punxsutawney,	D. B. Gilbloom.
J. G. Boyce,	Wyomissing,	D. H. Clark.
M. J. Gibney,	Harrisburg,	A. G. Eyrich.
C. P. Lynch,	Johnstown,	Elliott Fisher Co.
James McCann,	Pittston,	Walter Rose.
Robt. Davison,	Reading,	Mathew Yuskeze Hall.
M. J. Gibney,	Columbia,	Chas. A. Weide.
J. Rohlman,	Edge Hill,	Standard Garment Co.
B. F. Roeller,	Braddock,	Wm. Rhodes Est.
D. J. Berthold,	Johnstown,	H. Amowitz.
James McCann,	Johnstown,	Ross Perry.
James McCann,	Leechburg,	L. L. Cohen.
S. E. Richardson,	Jersey Shore,	Small-Heil Bldg., J. B. Small.
J. H. Mailey,	Pittston,	Hotel Pickering.
Robt. Davison,	Wilkes-Barre,	Clifford Hall, Thos. J. Kehoe.
M. E. Sanders,	York,	Chas. R. Wood Bldg.
R. C. Liggit,	Punxsutawney,	Henry Small, Trustee.
J. G. Boyce,	New Castle,	Weiss Bros.
C. H. Caler,	Chester,	Jas. A. Hunt Bldg.
H. W. Honan,	Towanda,	L. A. Burkholder.
W. P. Shoemaker,	Towanda,	Katherine Carroll, Agt.
W. P. Shoemaker,	Towanda,	Mrs. Kathryne Pyne.
W. P. Shoemaker,	Towanda,	H. B. & F. B. Wells.
W. P. Shoemaker,	Laquiu,	Barclay Twp. School Board, Homer C. Stiteler, Priu.
Van B. Thomas,	Huntingdon,	Jos. F. Biddle.
B. F. Roeller,	Norristown,	J. Claud Smith Est.
C. E. Reese,	Buck Hill Falls,	Buck Hill Falls Co.
C. E. Reese,	Buck Hill Falls,	Chas. N. Thompson, Gen'l. Mgr
C. E. Reese,	Water Gap,	P. R. Johnson, The Glenwood.
S. E. Richardson,	Leechburg,	Leechburg Opera House Co., D. M. Campbell.
S. E. Richardson,	Wilmerding,	Westinghouse Airbrake Co.
C. H. Caler,	Woodlawn,	Geo. Novich.
C. H. Caler,	New Brighton,	Beaver Valley Gen'l. Hospital.
C. H. Caler,	Rochester,	S. J. Leaf & Co. Bldg.
H. W. Honan,	West Chester,	H. H. Brown, Lessee.
J. G. Boyce,	Punxsutawney,	Benson & Wehrle.
James McCann,	Altoona,	Logan Laundry.
Robt. Davison,	Ransom,	Ransom Poor Farm.
C. E. Reese,	E. Stroudsburg,	Prospect House.

With the view of securing the best and safest construction in buildings, the Department of Labor and Industry invites architects and builders to come to the Department offices and confer upon submitted plans. A number of such conferences were held during the month of June, and as a result changes were made in plans, which proved beneficial both to the public and to the owners; and when the final revised plans were submitted, the very best construction was shown, not only in exit facilities, but in regard to ventilation, sanitation, and the arrangement of toilets.

On some of the plans, halls, stairways and exits were rearranged so as to afford greater convenience and security to the occupants of the proposed buildings.

A greater number of plans were submitted during the month of June than in any previous month of the current year. A total of 137 sets of plans were received and passed upon; eighty-six of them were entirely new plans, and forty-one were revised. Of these, ninety received the final approval of the Department.

Partly as a result of conferences and partly from other causes, architects and builders are showing in their plans and drawings much better exit facilities and more thought to fire prevention than was the case in former years.

Following is a summary of the month's work:

PLANS APPROVED DURING THE MONTH OF JUNE, 1917.

Fire Escapes.

Town.	Building.	Arch. or Cont'r.	Owner.
York, ...	Mercantile, ...	Smyser-Royer Co., ...	David E. Small Est.
New Castle, ..	Apartments, ...	C. C. & A. L. Thayer,.	Mr. Hunt.
Delaware Water Gap, .	Hotel, ...	Cameron Engineering Co., ...	Delewanna Inn.
E. Stroudsburg,	Hotel, ...	Cameron Engineering Co., ...	Analomink House.
E. Stroudsburg,	Hotel, ...	Cameron Engineering Co., ...	Lackawanna House.
Easton, ...	Store, ...	W. F. Remppis Co., ..	Wm. Laubach & Son.
Huntingdon, ..	Apartments, ...	Noe-Wadlow Co., ...	Juniata College.
Tyrone, ...	City Hall, ...	Noe-Wadlow Co., ...	Tyrone City.
Huntingdon, ..	Bank, ...	Noe-Wadlow Co., ...	Union National Bank.
Delaware Water Gap, .	Hotel, ...	Scranton Iron & Steel,	L. M. Ace.
Reading, ...	Apartments, ...	W. F. Remppis Co., .	Harry J. Althouse.
Stroudsburg, ..	Hotel, ...	Scranton Iron & Steel,	Zabriskie & Hommedieu.
New Castle, ..	Apartment, ...	Ellwood City Iron & Wire Works, ...	Mrs. Norris.
E. Stroudsburg,	Bank, ...	Cameron Engineering Co., ...	Monroe Co. Bank.
Throop, ...	Mill, ...	Scranton Iron & Steel Co., ...	Throop Silk Co.
Allentown, ...	Assembly Hall, ..	Scranton Iron & Steel Co., ...	Beth. Motor Corp.
Moosic, ...	Hall & Apts., ...	Scranton Iron & Steel Co., ...	James Butler.
Stroudsburg, ..	Hotel, ...	Brownworth & Co., ..	Mr. Snyder.
Harrisburg, ...	Store, ...	Potts Mfg. Co., ...	Blot & Baust.
Lancaster, ...	Apts. & Laundry,	H. M. Bartholomew, .	W. B. Byer.
New Brighton,.	Hospital, ...	Taylor & Dean, ...	Beaver Valley General Hospital.
Wilcox, ...	School, ...	Hersh & Hersh, ...	Wilcox School Board.
Denver, ...	Factory, ...	Anne & Son, ...	Geo. L. Nies.
Edge Hill, ...	Lodge Hall, ...	Metz Structural Steel Co., ...	I. M. Rhoads.
Reading, ...	Apartments, ...	Bauman Iron Works,.	Mrs. M. A. Miller.
Harrisburg, ...	Apartments, ...	Potts Mfg. Co., ...	C. G. Shirey.
Stroudsburg, ..	Hotel, ...	Cameron Engineering Co., ...	Indian Queen Hotel.
Eagles Mere, ..	Hotel, ...	Harris & Richards, ..	Wm. Woods, Mgr.
Tamaqua, ...	Dance Hall, ...	F. N. Peter & Bro., ..	Liberty Hall Assn.
Pocono Pines,..	Hotel, ...	Scranton Iron & Steel Co., ...	Pocono Hotel Co.
Wernersville, .	Sanatorium, ...	W. F. Remppis Co., .	Sunset Hall.
Stroudsburg, ..	Hotel, ...	Cameron Engineering Co., ...	Washington House.

PLANS APPROVED DURING THE MONTH OF JUNE, 1917—Continued.

Fire Escapes.

Town.	Building.	Arch. or Cont'r.	Owner.
W. Reading, ..	Fire House, ...	W. F. Remppis Co., ..	W. Reading Fire Co.
Reading, ...	Apartments, ...	Bauman Iron Works,.	Chas. E. Grimm.
Reading, ...	Apartments, ...	Bauman Iron Works,.	Cohen Bros.
Renovo, ...	Hotel, ...	National Fdy. Mfg. & Supply Co., ...	H. J. Batschelet.
Milford, ...	Hermitage, ...	Standard Iron Works,	Louis Ragot.
Osceola Mills, .	Hotel, ...	.....	National Hotel.
Reading, ...	Apartments, ...	Lloyd Schlegel, ...	Harry Shaaver.
Wilcox, ...	School, ...	Geo. W. Anne & Son,.	Wilcox School Board.
Mahoningtown,	Hotel, ...	Taylor & Dean, ...	McWilliams & Morgan.
Nescopeck, ...	Apts & Hall, ...	Geo. W. Anne & Son,.	Wm. C. Patterson.
Ardmore, ...	Apartments, ...	John Charles Norton,.	Jacob Kettering.

Theatres.

Orbisonia, ...	M. P. T., ...	.....	W. G. Lucas.
Turtle Creek, .	M. P. T., ...	.....	Mrs. Wright.
Harrisburg, ...	M. P. T., ...	The Hoffman Co., ...	P. Magaro.
York, ...	Theatre, ...	Dr. W. S. K., ...	M. E. Miller.
Belle Vernon, .	Theatre, ...	.....	R. W. Lange.
Shamokin, ...	M. P. T., ...	W. H. Lee, ...	Chamberlain Am. Co.
Langeloth, ...	M. P. T., ...	Edwin McFarland, ...	Peter Galatin.
Mt. Oliver, ...	M. P. T., ...	August F. Kline, ...	James Wilkinson.
Cambridge Springs, ...	Theatre, ...	G. W. J., ...	Fred E. Thomas.
Plymouth, ...	Theatre, ...	.....	Lee Bittenbender.
Turtle Creek, .	M. P. T., ...	.....	Mrs. Wright.

Buildings.

Carnegie, ...	Factory, ...	I. N. Dushane & Sons,	Tweed & Botsford.
York, ...	Masonic Temple,	Edward Keyworth, ..	Shippley & Baker.
Ardmore, ...	Machine Shop, ..	H. W. Castor, ...	Autocar Co.
Reading, ...	Apartments, ...	H. G. Mohn, ...	Brainerd L. Miller.
S. Bethlehem, .	Lodge Home, ...	E. R. Bitting, ...	L. O. O. M.
Bloomsburg, ..	Apartments, ...	H. W. Hower, ...	F. P. Edwards.
Fleetwood, ...	Factory, ...	Wayne M. High, ...	Fleetwood Body Co.
Reading, ...	Apartments, ...	E. V. Scholl, ...	J. G. Hawley Est.
Williamsburg, .	School, ...	F. J. Shollar & Son, ..	W. School Board.
E. Canonsburg,	Store & Apts. ...	M. D. Pearce, ...	Kolossos Assn.
Harrisburg, ...	Factory, ...	C. Harry Kain, ...	Dauphin Cigar Co.
Wilkes-Barre, .	Mill, ...	McCormick & French,	Wilkes-Barre Silk.
Shamokin, ...	Apartments, ...	W. H. Lee, ...	F. P. Llewellyn.
Chester, ...	Store & Apts., ..	E. A. Wilson, ...	J. C. Taylor.
Bryn Mawr, ..	School, ...	H. L. Reinhold, Jr., .	Harcum Girls' Sch.
Hershey, ...	Factory, ...	J. H. Wickersham, ..	Hershey Choc. Co.
Reading, ...	Apartments, ...	G. C. Freeman, ...	Penta & Raduizzi.

PLANS APPROVED DURING THE MONTH OF JUNE, 1917—Continued.

Fire Escapes.

Town.	Building.	Arch. or Cont'r.	Owner.
S. Bethlehem,	Apartments,	E. R. Bitting,	H. Silverman.
Reading,	Apartments,	Harry N. Dickinson, Owner,	
Reading,	Church,	Muhlenberg Bros.,	Olivet Presby. Ch.
Harrisburg,	Apartments,	Fahnestock and Raidabaugh,	Mrs. Edw. Boyer.
Bristol,	Office,	Wager Fisher,	Rohm & Haas.

Bakeries.

Allentown,	Bakery,		Mrs. C. Rassler.
Pittsburgh,	Bake-Shop,		M. Grauer.
Philadelphia,	Bakery,	Bartsburg Jones & Fisher,	Parkway Baking Co.

Toilets and Wash Rooms.

Muney,	Foundry,	D. G.,	Sprout, Waldron Co.
Scranton,	Shop,	Westinghouse Church Kerr & Co.,	Scranton Button Co.
Pittsburgh,	Foundry,	P. B. Kirsopp,	P. Stove & Range Co.
Scottdale,	Factory,	L. A. C.,	U. S. Cast Iron Co.
Creighton,	Foundry,	J. H. Phillips,	Yost Bros.
E. Downingtown,	Foundry,		D. Mfg. Co.
Zelienople,	Foundry,		Iron City Sani. Co.
McKeesport,	Laboratory,		Ft. Pitt Steel Co.
Avonmore,	Foundry,		Natl. Roll & Fdy. Co.
Chester,	Foundry,	S. P. A.,	Penn Seab'd St. Co.
Monongahela City,	Foundry,		Cyclops Fdy. Co.

Summary.

Fire Escapes,	43
Theatres,	11
Buildings,	22
Bakeries,	3
Toilets,	11
Total,	90
New Plans Received During Month of June,	86
Revised Plans Received During Month of June,	51
Total Plans Received,	137

FIRE ESCAPES ORDERED DURING JUNE, 1917.

Inspector.	Town.	Owner.
C. H. Caler,	New Castle,	Mrs. Eliz. R. Norris, Norris Block.
F. L. Diehm,	Schoeneck,	United Cigar Co. (Gen'l Cigar).
M. J. Gibney,	Reading,	West Reading Fire Co. No. 1.
C. E. Reese,	Stroudsburg,	Stroudsburg Ribbon Mills.
James McCann,	Johnstown,	Mishler Brothers.
Charles P. Lynch,	Harrisburg,	Alva Hotel.
C. H. Caler,	Beaver Falls,	Paff Building.
S. R. Richardson,	Charleroi,	W. E. Riggs.
Geo. E. Ammerman,	Danville,	Boston Store.
Van B. Thomas,	McConnellsburg,	James J. Harris.
Geo. E. Ammerman,	Nescopeek,	W. E. Patterson.
Wm. P. Shoemaker,	Laceyville,	G. D. Wright.
Geo. E. Ammerman,	Nescopeek,	M. W. Fenstermacher.
Van. B. Thomas,	Robertsdale,	Rockhill Iron & Coal Co.
Jas. McClusky,	Washington,	J. G. Stream Estate.
Jas. McClusky,	Washington,	Interurban Land Co.
Jas. McClusky,	Washington,	Court Theatre Building.
Jas. McClusky,	Washington,	Mrs. Rosie Sonson.
Jas. McClusky,	Washington,	Sample House.
C. E. Reese,	Water Gap,	The Oaks.
C. E. Reese,	Water Gap,	The Kittatinny.
C. E. Reese,	Water Gap,	The Kittatinny Lodge.
C. E. Reese,	Water Gap,	The Kittatinny Laundry.
C. E. Reese,	Water Gap,	The Kittatinny Garage.
C. E. Reese,	Stroudsburg,	Indian Queen Hotel.
Wm. P. Shoemaker,	Meshoppen,	Meshoppen Boro School.
Wm. P. Shoemaker,	Tunkhannock,	G. C. Fusheimer.
B. Frank Roeller,	Royerfsord,	Progressive Knitting Mills.
Geo. E. Ammerman,	Bloomsburg,	Chas. Clyde Yetter.
James A. Barry,	Etna,	Park Hotel.
Jas. McClusky,	New Eagle,	Hotel Noble.
J. J. Rohlman,	Columbia,	Swarzenbach & Huber.
Wm. P. Shoemaker,	Tunkhannock,	Fred B. Jennings.
Wm. P. Shoemaker,	Tunkhannock,	County Commissioners.
Wm. P. Shoemaker,	Tunkhannock,	H. S. Harding.
Geo. E. Ammerman,	Bloomsburg,	Chas. Clyde Yetter.
Chas. Kopp,	Sturgeon,	F. O. E. 1538.
James McCann,	Altoona,	W. L. Lee.
J. H. Mailey,	Muncy,	Noble Estate.
Geo. W. Kerchner,	Newton Hamilton,	Odd Fellows' Hall.

The number of plans approved by the Department during July, although not as large as the previous month, show an increase over the corresponding month of the year 1916. The number of plans submitted, however, was greater than the previous month.

The reason for rejection or delay in approving so many of the plans is attributed to the fact that on July 18th the act of Legislature, amending the Fire and Panic Act 233 of 1909 was signed by the Governor and became a law. This law affects conditions in new and alterations to old buildings and fire escapes.

It may require several months' time for the public to become familiar with the changes in the construction and means of egress in buildings, as required by this new act.

A total of 143 sets of plans were submitted, eighty-eight of which were entirely new, and fifty-five were revised. Of this number, eighty-two sets were approved finally by the Department.

The following is a summary of the month's work:

PLANS APPROVED DURING MONTH OF JULY, 1917.

Fire Escapes.

Town.	Building.	Arch. or Cont'r.	Owner.
W. Chester, ..	Apts., ...	Geo. W. Anne & Son,.	Ferdinand Grebe.
Nescopeck, ...	Apts., ...	Geo. W. Anne & Son,.	W. W. Fenstermacher.
Altoona, ...	Store, ...	Geo. W. Anne & Son,.	City Fur. Co.
Altoona, ...	Apts., ...	Geo. W. Anne & Son,.	F. H. Bartlett.
Towanda, ...	Opera House, ...	.....	Keystone Opera House Co.
Delaware Water Gap, ...	Hotel, ...	Scranton Iron & Steel Co., ...	The Glenwood.
Homestead, ...	Apts., ...	Reiling Mfg. Co., ...	Wm. E. Walton.
Punxsutawney	Lodge, ...	Osborn Mch. Co., ...	K. of C.
Cardington, ...	Factory, ...	Brownworth & Co., ..	Wolfenden Shore & Co.
Mt. Pocono, ..	Hotel, ...	Albert Smith Sons, ..	Pocohasset Hotel.
Hazleton, ...	Office, ...	S. Kunsman, ...	Cons. Tele. Co.
Reading, ...	Hotel, ...	W. L. Keifer, ...	P. Barbey & Son.
Chester, ...	Office, ...	Belmont Iron Works,.	Phila. Sub. Gas & Elec. Co.
Robertsdale, ..	Apts., ...	Geo. W. Anne & Son,.	Rock Hill Iron & Coal Co.
Lancaster, ...	Mill, ...	Lancaster Mch. & Struc. Co., ...	Sinclair Silk Co.
Stroudsburg, ..	Hotel, ...	Scranton Iron & Steel Co., ...	Mr. Snyder.
Greensburg, ...	Apts., ...	Keystone Ornamental Iron Wks., ...	Children's Home.

PLANS APPROVED DURING MONTH OF JULY, 1917—Continued.

Fire Escapes—Continued.

Town.	Building.	Arch. or Cont'r.	Owner.
Lake Como, ...	Lodge, ...	Scranton Iron & Steel Co., ...	I. O. O. F.
Newfoundland,	School, ...	Anthracite Bridge Co.,	Greene Dreher Sch.
Pocono Summit,	Hotel, ...	Scranton Iron & Steel Co., ...	Pocono S. Hotel.
Pocono Summit,	Hotel, ...	John Baizley Iron Works, ...	Pocono Manor.
Yoder Twp. (Lower), ...	School, ...	Geo. J. Griffith Iron Works, ...	Edgewood School.
Catawissa, ...	Lodge Hall, ...	Scranton Iron & Steel Co., ...	Wm. Hartman Est.
Ardmore, ...	Apts., ...	Gehret Bros., ...	T. R. Thompson.
Lewistown, ...	Store & Apts., ..	Noe-Wadlow Co., ...	H. J. Cohen.
Mt. Pocono, ..	Hotel, ...	Standard Iron Works,	Mrs. S. T. Carswell.
S. Bethlehem, .	Apts., ...	S. Bethlehem Ornamental Iron Wks., .	M. Bierbaum.
S. Bethlehem, .	Apts., ...	S. Bethlehem Ornamental Iron Wks., .	Groman Bros.
Reading, ...	Apts., ...	A. A. R., ...	H. L. Boas.
Chester, ...	Store & Apts., ..	E. A. Wilson, ...	Sproul & Taylor.
Zieglerville, ...	Lodge Hall, ...	J. N. Poley, ...	K. of Friendship.
Marion Heights,	School, ...	Shamokin Wagon Works, ...	M. H. School.
Harrisburg, ...	Hotel, ...	Potts Mfg. Co., ...	Joseph Guisti.
Wilmerding, ..	Lodging House, .	Architect Brown, ...	West. Air B. Co.
Tunkhannock,	Factory, ...	Letts & Austin, ...	G. P. Dersheimer.
Harrisburg, ...	Warehouse, ...	Potts Mfg Co., ...	S. & H. Katzman.
Summerville, ..	Lodge Hall, ...	Osborn Mch. Co., ...	Union Nat'l Bank.
Wilcox, ...	School, ...	Osborn Mch. Co., ...	Wilcox H. School.
Shamokin, ...	M. P. T., ...	Danville Iron & Steel Co., ...	Chamberlain A. Co.
Hershey, ...	J. K. Putt (Arch), ...	Hershey Industrial School, ...	
Rosslyn Sta., ..	Factory, ...	Homestead Iron Wks.,	Tweed & Botsford.
		Theatres.	
McKees Rocks,	M. P. T., ...	Chas. F. Engel, ...	Dr. J. A. Barr.
Woodlawn, ...	Theatre, ...	Geo. O. Rogers, ...	Ed. Harvey.
Cornwells, ...	M. P. T., ...	J. G. Hansen, ...	Taylor Ship-Building Corp.
Tunkhannock, .	M. P. T., ...	.....	F. E. Crowley,
Wilkes-Barre, .	M. P. T., ...	.....	A. W. Domowitch.
Gilberton, ...	M. P. T., ...	W. D. H., ...	M. Kerrigan.
Middleburg, ...	M. P. T., ...	.....	B. F. Seachrist.
Ellwood City, .	Theatre, ...	Frank H. Foulk, ...	Biordi & Fusco.
W. Chester, ...	Opera House, ...	C. H. Vance, ...	Grand Opera House.
Leechburg, ...	Opera House, ...	.....	Leechburg Opera House.

PLANS APPROVED DURING MONTH OF JULY, 1917—Continued.

Town.	Building.	Arch. or Cont'r.	Owner.
Arnot, ...	M. P. T., ...	Blossburg Coal Co., ..	Blossburg Coal Co.
Dagus Mines, .	M. P. T., ...	N. W. Mining & Exchange Co., ...	N. W. M. & E. Co.
Butler, ...	Theatre, ...	J. W. Ketterer, ...	J. D. Dunmeyer.
		Buildings.	
Erie, ...	Shop, ...	Lackawanna Bridge Co., ...	Erie Forge Co.
Sunbury, ...	Warehouse, ...	Stearn, Woodnutt & Schmohl, ...	H. & S. Weiss.
Harrisburg, ...	Apartments, ...	Potts Mfg. Co., ...	John Myers.
Wyomissing, ..	Chapel, ...	Muhlenberg Bros., ...	Rev. G. Borneman.
Allentown, ...	Factory, ...	Ruhe & Lange, ...	Allentown Standard Mfg. Co.
Chester, ...	Laundry & Apts.,	Maurice Golden, ...	Chester Steam Laundry.
Coatesville, ...	Lodge Home, ...	Kearns & Carroll, ...	L. O. O. M.
Coatesville, ...	Lodge Home, ...	L. Zenas Slawter, ...	F. O. E.
Reading, ...	Mill, ...	Geo. L. Gerhard & Son, ...	D. S. & W. Hos. Co.
Allentown, ...	Office, ...	E. M. Pickin, ...	Wetherhold & Metzgar.
Altoona, ...	Hospital, ...	Puderbaugh & Scholar, ...	Mercy Hospital.
Reading, ...	Academy, ...	.....	A. A. O. N. M. S.
Hatfield, ...	Factory, ...	Jerome S. Landis, ...	Townsend Mfg. Co.
Bethlehem, ...	Apts., ...	H. J. Weigner, ...	Mrs. Clinton Moser.
Ardmore, ...	Factory, ...	H. W. Castor, ...	Autocar Co.
Punxsutawney,	Apts., ...	Harrington & Howard,	J. P. Wilson.
Buck Hill Falls,	Hotel, ...	Bunting & Shrigley,..	The Inn.
Easton, ...	Apts., ...	Chas. M. Davis, ...	Mrs. Mary McKeen.
Titusville, ...	Bank & Apts., ..	Hoggson Brothers, ...	2nd Nat'l Bank.
		Toilets and Wash Rooms.	
Midland, ...	Foundry, ...	.....	Pbg. I. & S. Fdy. Co.
Fullerton, ...	Foundry, ...	W. M., ...	Lehigh Fdy. Co.
Sharon, ...	Foundry, ...	F. H. K., ...	Amer. S. Fdy. Co.
Braddock, ...	Shop, ...	W. M., ...	Brad. Mfg. Co.
Scottdale, ...	Fdy., ...	.....	Marion Mch. Co.
		Bakeries.	
Philadelphia, ..	Bakery, ...	J. C. Magill, ...	C. L. Villotti.
Philadelphia, ..	Bakery, ...	.....	A. Pasquarello.
Pittsburgh, ...	Store & Bakery,.	Geo. G. Schreiber, ...	Emil Boll.
		Blower Systems.	
Royersford, ...	Foundry, ...	Arthur S. Kepner, ...	Floyd Wells Co.

Summary.

Fire Escapes,	41
Theatres,	13
Buildings,	19
Toilets,	5
Bakeries,	3
Blower Systems,	1
Total,	82
New plans received during the month of July,	88
Revised plans received during month of July,	55
Total plans received during the month of July,	143

FIRE ESCAPES ORDERED DURING JULY, 1917.

Inspector.	Town.	Owner.
Chris Kopp,	Sturgeon,	Sturgeon Public Schools.
C. E. Reese,	Tobyhanna,	P. O. S. of A. Hall.
J. G. Boyce,	Summerville,	Carrier and Slicker.
Wm. P. Shoemaker,	Mehoopany,	P. O. S. of A. Hall.
Wm. P. Shoemaker,	Mehoopany,	F. M. Swetland.
B. Frank Roeller,	Schwenksville,	Jacob A. Bromer.
Van. B. Thomas,	Huntingdon,	Samuel Gregory.
Jas. McClusky,	Monongahela,	W. L. Campbell, J. C. Kenyon
Robert Davison,	Alderson,	D. Rankin.
Robert Davison,	Alderson,	Mrs. Isabella Merical.
Robert Davison,	Alderson,	Mrs. Lewis Schwarm.
E. W. Lott,	Starlight,	Gilbert E. Fay.
E. W. Lott,	Lake Como,	W. J. Healey.
E. W. Lott,	Lake Como,	Geo. E. Gilchrist.
Van. B. Thomas,	Mt. Union,	A. S. Welch.

SUGGESTED SAFE PRACTICES FOR THE MANUFACTURE OF NITRO AND AMIDO COMPOUNDS AS EVOLVED BY THE INDUSTRIAL BOARD WITH THE AID OF THE DIVISION OF INDUSTRIAL HYGIENE AND ENGINEERING AND A COMMITTEE OF REPRESENTATIVES OF PLANTS MANUFACTURING EXPLOSIVES.

The present war has called upon this country to utilize, as never before, the resources lying within its boundaries. At no previous time, have we been so entirely dependent upon our own initiative to create for ourselves certain raw products and finished materials which are essential not only to our well-being but also to our very existence as a nation.

Prior to this war the utilization of coal tar and its derivatives was practically negligible in this country by comparison with their production and use in Germany. The beehive type of coke oven stands today as a monument to our prodigal waste of this very valuable material, and in the present crisis, it is difficult to conceive of the reason why our Government still permits their operation when the so-called by-product oven would stop this waste by conserving the benzine, ammonia, and other important by-products.

Furthermore, the present candle power standard of illuminating gas now in force in many portions of our country should be abrogated for the period of the war, so that the benzine may be recovered, and be available for the production of explosives.

The manufacture of black powder was first commenced on a commercial scale in America in 1802. In that year, E. I. du Pont established on the banks of the Brandywine Creek in Delaware, the first mill and from that time until the commencement of the war in 1914, America produced large quantities of the so-called "peace explosives" such as black powder, nitroglycerine, dynamite, and, by comparison, limited quanitities of such so-called "military explosives" as guncotton (nitrocellulose), smokeless powder, picric acid (trinitrophenol), trinitrotoluol, TNA (tetranitranilin), tetryl (tetranitromethylanilin), and those many varied syntheses of nitrobenzine, the raw material for the commercial production of anilin, benzidine, quinoline, azobenzine, and many other substances, some of which are of value as dyestuffs, and still others as explosives, and others as medicines.

The experience of England in the manufacture and handling, upon a large scale, of some of these substances dates from the outbreak of the war, and there soon developed among the workers alarming numbers of cases of illness, and in not a few cases these resulted in a fatal termination.

Some of these substances are poisonous and these poisons were unfamiliar to American manufacturers and to members of the medical profession. So perhaps that young resident physician of a hospital is excusable for his ignorance when he excitedly called the visiting physician to see "the interesting case of a man who had fallen in a blue dye vat," when in point of fact, the unfortunate patient was a typical case of acute anilin poisoning.

In order to protect the workers in these substances in those factories which are within the borders of our Commonwealth, the Division of Hygiene and Engineering has, at the request of the Industrial Board, made a thorough study of this subject, and assisted by representatives of the New Jersey Department of Labor and representatives of companies manufacturing these substances, has formulated the Safe Practices for the Manufacture of Nitro and Amido Compounds, which were adopted by the Industrial Board of the Pennsylvania Department of Labor and Industry, and issued as Safety Standard No. 25, on August 1st, 1917.

It is felt that with the assistance of men so intimately connected with the various phases of the matter under consideration, this Standard represents the best recommendations possible with our present knowledge of the subjects. The State has indeed been fortunate in having had the co-operation of so experienced a body of men on this committee and public acknowledgment is in this way given for the invaluable service they have rendered to this Commonwealth in contributing so freely of their time and of their knowledge to conserve the health and the lives of its workers.

The members of the Committee were:

Mr. A. B. Mitchell, Benzol Products Company, Marcus Hook, Pa.
Mr. A. G. Peterkin, Barrett Manufacturing Company, Philadelphia, Pa.
Mr. C. A. Patterson, E. I. du Pont de Nemours & Company, Wilmington, Del.
Mr. W. C. Anderson, American High Explosives Company, New Castle, Pa.
Mr. C. G. Storm, Aetna Explosives Company, New York City.
Mr. George P. Adamson, General Chemical Company, Easton, Pa.
Mr. T. V. Hodges, Semet-Solvay Company, Syracuse, N. Y.
General Lewis T. Bryant, Commissioner of Labor, Trenton, N. J.
Mr. John T. Roach, Chief, Bureau of Hygiene and Sanitation, Department of Labor, Trenton, N. J.
Dr. M. Szamatolski, Consulting Chemist, Department of Labor, Newark, N. J.
Mr. John S. Spieer, Chemical Engineer, Division of Industrial Hygiene and Engineering, Department of Labor and Industry, Harrisburg, Pa.
Dr. Francis D. Patterson, Chairman, Chief, Division Industrial Hygiene and Engineering, Department of Labor and Industry, Harrisburg, Pa.

Inasmuch as up to this time there has been no very extended experience with the manufacture of these substances in this country, and inasmuch as new facts are constantly being brought to light in regard to their taxicity, or their effect upon the various organs of the body, and with this knowledge are devised methods by which the ill effects may be overcome, it was deemed wise to promulgate this Standard as Suggested Safe Practices for the Manufacture of Nitro and Amido Compounds, instead of as a mandatory code. This was done with the thought in mind that as the production of these compounds continues, new and improved methods for the elimination of the hazards surrounding them will be originated and that in the future, if need be, a mandatory Standard may be adopted, but until such time arrives, the man who works with these substances will have the advantage of the very best protection possible in the light of our present knowledge.

A few of the salient points only, considered in this Standard, will be drawn to the attention here.

Explicit directions are given for the construction, ventilation, and cleaning of the buildings in which these substances are manufactured. The precautions to be used in transporting, manipulating, packing, and storing of these substances are gone into specifically.

Very especial directions are given for the maintenance of the health of the individual worker. These cover the subjects of wash, dressing, and lunch rooms, the personal habits of the workers, and the matter of who should and who should not be employed in these processes as regards the physical susceptibility of the worker to disease.

Directions are given for the prevention of asphyxiation, and of poisoning by acid fumes; and the minimum requirements for instruction of employes and maintenance of equipment for resuscitation are definitely enumerated.

All the matters touched upon in this Standard are of fundamental importance. It is therefore urged that every person interested in or connected with the manufacture of these compounds should obtain a copy of this Standard for reference. This may be procured without cost upon application to William Lauder, Secretary, Industrial Board, Department of Labor and Industry, Harrisburg, Pa.

INTERPRETATIONS AND DECISIONS MADE IN SPECIFIC CASES BY THE INDUSTRIAL BOARD IN ADDITION TO THE FORMAL RULINGS OF THE BOARD UP TO AUGUST 1, 1917.

Act 267, P. L. 1913, prescribes the publication of all rulings or regulations adopted by the Industrial Board. In accordance therewith rulings have been published from time to time, but with the growth of the activities of this Board it is thought also that the many interpretations or decisions made to the inspectorial force and others should be published as a matter of general information.

After July 1, 1917, in addition to the rulings made by the Industrial Board, the decisions or interpretations will be numbered consecutively and published in each issue of the Department Bulletin.

These cases will be presented in the form of inquiry and reply without reference to the parties concerned.

In the annual report now going to press these decisions will be quoted and reference made to the act under which they are given. This will become informative to the public at large, enabling them to know what to do under similar conditions.

The following rulings and decisions have been made since the last issue of the Department Bulletin:

Rulings.

Explosives.

Pursuant to Act No. 177, P. L. 1915 (Child Labor Law), the Industrial Board on July 31, 1917, made the following ruling:

> The employment of minors in establishments where picric acid, smokeless powder and TNT are manufactured, is prohibited.
> (TNT is an abbreviation for Trinitrotoluol.)

Wool Carding Machines.

In pursuance of Act 267, P. L. 1913, the Industrial Board adopted on July 5, 1917, the following addition to Safety Standard Vol. 1, No. 1:

> All belts, pulleys, gears, revolving or reciprocating parts shall be guarded according to Power Transmission Machinery Standards, Volume 1, No. 1, except where the distance between machines, or between a machine and a wall, makes it impracticable to install a standard guard on or about the driving pulley, such pulley shall at least have the spokes guarded by a smooth metal disc.

Bakeshop Code, Vol. 1, No. 9.

In pursuance of Act 267, P. L. 1913, the Industrial Board makes the following rules and regulations relative to Bakeshops, Volume 1, No. 9:

1. That the Bakeshop Code be amended to include the approval of a natural draft ventilation as described.

2. That the time for installing an approved ventilation in Class A cellars (and basements) bakeshops be extended to January 1, 1918.

Women's Law.

In pursuance of Act 466, Women's Labor Law, the Industrial Board on July 5th, 1917, makes the following ruling:

Section 9 (relative to wash rooms, dressing rooms and water closets), shall be interpreted as requiring such toilet accommodations for employes alone, apart from those provided for the general public.

Employment of Non-English Speaking Persons.

In pursuance of Act 267, P. L. 1913, the Industrial Board on July 5, 1917, makes the following ruling:

No person shall be permitted to labor in any group employment in a position of command or obedience who is unable to speak or understand the language of his or her co-laborers, whereby through misunderstanding, accident and injury are apt to result to fellow workers.

The following recommendations were made on this subject—

It is recommended to employers of non-English speaking employes that they co-operate with the directors and instructors of their local departments of public instruction, their social and economical societies and institutions, encouraging the early acquiring of the ability to speak the English language by their non-English speaking employes.

Night sessions of public schools and the attendance of these sessions should be encouraged.

The intermingling of the non-English speaking with the English speaking at community meetings, frequently and diplomatically arranged for, to be encouraged as much as possible. Give these people who can not understand our language the fullest opportunity to early acquire a speaking and understanding knowledge of the English language, thus helping to eliminate the liability to accident or injury through misunderstanding, and also encourage the early Americanization of our foreign population.

Child Labor Act.

Pursuant to the provisions of the Child Labor Act, May 13, 1915, P. L. 286, the Industrial Board rules that wherever any establishment provides and maintains a part-time industrial school for the education of minors between the ages of fourteen and sixteen years,

said minors may be employed at such occupations as are not specifically prescribed as hazardous in Section 5 of Act 177, P. L. 1915, or which have not been declared as such, by the Industrial Board or which may hereafter be classed as such. Provided that the minors are at all times under the special supervision and instruction of competent foremen, and where all machinery is properly guarded according to the rules of the Industrial Board of the Department of Labor and Industry.

In all such instances the provisions of the Child Labor Act, concerning continuation schools may be complied with in any one of the following methods:

1. The instruction for eight hours a week may be given in the school conducted by the employer.
2. Shop instruction may be given in the shop for four hours a week, the remaining four hours of instruction may be given in the public continuation school
3. All of the instruction may be given in the public continuation school; provided, that in all cases, the instruction given in the shop shall be under the supervision of the Bureau of Vocational Education of the State Board of Education, and shall comply with the rules and regulations of the Bureau governing such schools.

It is also provided that in all part-time industrial schools the rules and regulations governing hours of labor, attendance at school, employment certificates, etc., as mentioned in said Act shall be complied with.

Child Labor Act.

Pursuant to Act No. 177, Child Labor Act, P. L. 1915, the Industrial Board on June 12, 1917, makes the following rulings:

Orphanages or institutions engaged in commercial business come within the provisions of the Child Labor Law; and cannot be classed as an educational process.

Women's Law.

After a public hearing held July 31, 1917, the Board ruled as follows:

Pursuant to Act No. 466, P. L. 1913 (Women's Labor Act, and supplementary thereto the Showalter Act. No. 254, P. L. 1917, made the following ruling:

The Industrial Board grants to the short-term hotels, operating approximately four months in the year, the privilege of seven days a week on the basis of a seven hour day; it being understood that the employes in such hotels (working more than seven hours per day) shall not be scheduled under the terms of this ruling, but will be classed under the terms of the Women's Law of 1913; it being further understood that the schedule of the hours of labor shall be posted as called for by law.

Decisions.

Child Labor Act, No. 177, P. L. 1915.

Inquiry:

Is it permisible to employ a minor in the office of a wholesale liquor establishment?

Decision: May 8, 1917.

If the office is in the establishment where liquors are handled or stored, such occupation is prohibited.

* * *

Inquiry:

Can minors of fifteen years of age be employed in railroad shops as call-boys, helpers and in other occupations?

Decision June 12, 1917:

Working upon machine tools in machine shops is considered a hazardous occupation by the Industrial Board, and is an occupation in which minors between fourteen and sixteen years of age should not engage, except where the conditions are in accord with the Standards of the Industrial Board, and where such children have adequate supervision and attention; provided that the ruling shall not affect the provisions of any rules with regard to specific machines or classes of machines.

* * *

Inquiry:

Can a minor be allowed to work at installing and removing electric light and power meters and do inside wiring?

Decision June 12, 1917:

Such employment may be permitted provided they are acting as assistants to a trained electrician over twenty-one years of age, and in general shall be allowed to act as an apprentice or assistant to an electrical engineer over twenty-one years of age; and provided further that the above shall refer only to low voltage installations.

* * *

Inquiry:

Can a minor be employed as an assistant in the laboratories of a blast furnace?

Decision June 12, 1917:

Section 5, P. L. 177, 1915, provides that no minors under the age of eighteen shall be permitted to work in or about blast furnaces. The Industrial Board decides that this does not exclude a minor of the age of sixteen being employed as an assistant to a chemist in the laboratories of a blast furnace provided he does not engage in taking samples around the furnace and that his work shall be confined exclusively as a helper in the laboratory.

Decision June 12, 1917:

The following decision was made by the Industrial Board relative to minors in steel mills:

Minors between the ages of sixteen and eighteen shall not be employed on machines or processes in connection with roll tables, roll cars and greasers in rolling mills.

The following occupations are permissible for boys between sixteen and eighteen years:

Test boys (provided they do not engage in taking samples),
Messenger boys,
Door operators,
Shippers,
Weighmasters,
Water carriers,
Soaking pit cover operators,
Shear gauge boys, and
Transfer tables.

* * *

Codes.

Scaffolding Code.

A tentative scaffolding code has been formulated and public hearings have been held to afford an opportunity to those interested to make suggestions or complaints before the final adoption of the code by the Industrial Board.

This is a very important subject. The lack of proper rules and regulations for scaffolds has resulted in many serious and fatal accidents.

Pattern Shops.

As the study of this subject develops, it is found by the Industrial Board that it may be well to revise the Wood Working Machinery Code, Volume 1, No. 8, to include this industry. The Wood Working Machinery Code was issued in 1915, before the Compensation Law went into effect, and under close investigation some changes may be necessary.

Brewing and Bottling.

This code is now in the hands of the printer and will be issued shortly.

Elevator Code No. 17.

The revised code, including installations prior to July 1, 1916, will be considered by the Industrial Board for approval.

Motion Pictures.

This code regulating motion picture machine operation is now completed and will be considered by the Industrial Board for approval.

Eye and Head Protection.

The code for eye and head protection, popularly known as "goggles," has created great interest in the State and has been the subject of an exhaustive study. It is now nearing completion and may be reported to the Industrial Board during September.

Approved Safety Devices.

The following devices were recommended for the approval of the Industrial Board at the meeting of the Approvals Committee held June 27, 1917:

No. 87. Universal Protective Appliance Co., New York City, interlock for elevator door.

No. 88. Elevator Locks Company, Peoria, Ill., interlock for elevator door.

No. 89. Oliver Machinery Company, Grand Rapids, Mich., Oliver Circular Safety Cylinder, used on Oliver Jointers.

HOW THE DEPARTMENT OF LABOR AND INDUSTRY AIDED IN SUPPLYING WORKERS ON PENNSYLVANIA FARMS THROUGH THE BUREAU OF EMPLOYMENT DURING THE MONTHS OF MAY, JUNE AND JULY, 1917.

During the months of May, June and July the activities of the Bureau of Employment of the Department of Labor and Industry were largely securing labor for farmers throughout the State. Those in charge of the various offices were instructed by the Commissioner of Labor and Industry to subordinate everything to this work because of its immense importance to the State and to the Nation at this critical time. The co-operation of various bodies and groups of citizens, such as Chambers of Commerce and Boards of Trade, was solicited for this purpose; and good results have been obtained. The State Public Safety Committee and the State Department of Agriculture were working toward the same end, and in order that this work might not be duplicated, a working plan was affected whereby certain activities were assigned to each group. By this co-operation, the needs of the farmers of the State, for the work which had to be performed largely during the month of May, were met in a degree not indicated by the reports of the Bureau, for the reason that the publicity given to openings, frequently enabled men to receive employment on farms without making any report thereof to the Bureau. However, actual record placement for the Bureau through these various branches has been satisfactory.

Up to July 1st, the district offices had placed 897 persons in farm positions. By the end of the month, this number reached 1,517, or 620 for the month of July.

The Bureau was assisted during the last three weeks of July, by the inspectors of the Department who gave this time to help the farm-

ers get labor for the harvest season. In this work the inspectors acted under the direction of the Bureau of Employment and in cooperation with the farm agents of the various counties. Many requests from the farmers for temporary help came through the Agricultural Extension Department of The Pennsylvania State College.

The work was very well carried on and the reports show that the farmers were supplied in this manner with the help they needed. During September the inspectors will again assist in making placements for the harvest.

Employers in the manufacturing plants of the State have given very valuable assistance in gathering crops. In various districts, small plants have closed down entirely in order that the employes might gather their own crops or assist the farmers of the neighborhood.

Letters to these employers sent out by the Department, asking for the release of men for the harvest received gratifying consideration. The employers promised to release several thousand men, if necessary to assist the farmers in saving their crops. Requests for these men have been made only in cases of extreme need and in localities where farm hands were hard to find.

With the harvest work finished the Bureau gave similar attention to assisting the farmers in the gathering of the second crop in September.

Appeal for Farm Labor.

In the effort of the Bureau of Employment to obtain workers for the farmers and fruit growers of Pennsylvania the following appeal was sent State-wide July 14. This appeal, which also outlines the methods of the Bureau in meeting the farmers' demands for laborers, is as follows:

Spend a week of your vacation on a Pennsylvania farm doing your bit by aiding in the harvesting of the grain and fruit! On the 18,000 farms of this State more than 3,500 men are needed now and during the next few weeks. If you have had farm experience send your name and address to the Bureau of Employment, of the Department of Labor and Industry, Harrisburg, Pa., stating the days or weeks you will devote to the patriotic service of harvesting the crops of the Commonwealth.

Requests for thousands of men have come from farms in all sections of the State. Employers throughout Pennsylvania have already furnished the Department of Labor and Industry with names of employes having had farm experience and who may be temporarily released from their present employment for active service in the grain fields.

More than 2,500 men have already been enrolled for this service by the State Employment Bureau and approximately 1,000 of those workers are today on farms. Some of these emergency farm hands will be in the fields for one week, others for two weeks, constantly making places for new enrollments. Every man in the State having had farm experience, is urged to enroll today by sending his name to Jacob Lightner, Director of the Bureau of Employment, Harrisburg, Pa.

While the present demand is for men of strength and farm experience, another vacation plan is being inaugnrated by the Bureau of Employment by which clerks and other competent indoor workers throughout Pennsylvania, taking their vacation in late summer, may do their bit by aiding in the harvesting and shipment of the peach and apple crops.

Pennsylvania's fruit season will begin about August 15, and indoor workers can aid greatly by enrolling today in the work of preventing peaches and apples from rotting in the orchards. Clerks and office workers can give a week of their vacations to wholesome outdoor work at pecuniary advantage to themselves and benefit to the Commonwealth and Nation. Fruit harvesting is not so rigorous as the other agricultural activities now being performed by the workers released temporarily from manufacturing plants.

A typical request received by Commissioner Jackson calls for forty men for work in York County in the picking and packing of the peach crop after Augnst 20. The work can be performed by the average man. The wages are two dollars for a ten-honr day and two dollars and fifty cents for a twelve-hour day

Workers will be housed in a large building provided with modern improvements inclnding electric lights. A man and wife will have charge of the establishment and will prepare the meals for the workers. The work on this farm will extend through four weeks, giving potential places for 160 men vacationists willing to devote one week each to outdoor work in the orchards of York county.

Men in all sections of Pennsylvania, willing to spend one week or more in patriotic farm service may enroll by sending their names and the time for which they will volunteer to the Bureau of Employment, Department of Labor and Industry, Harrisburg.

Women Eager to Aid.

A peculiarity of the farm labor situation is indicated by the large number of women students who were desirous of securing some kind of horticltural work. These women were actuated by the same desire that inspires every true American—the desire to do his or her "bit." The situation was, of course, created by the war, and it may be that not only will their services be required, but the services of many other women in the production and preservation of foodstuffs for both the military and civil population of the country.

Boys from fifteen years of age and upward, impelled by the same high motives, have made application to work on farms. In some instances farmers have refused to accept their untrained services, but in many cases they have been able to secure employment for the period of their summer vacation.

The various canning factories of the State requested the Bureau to secure men, women and boys to work during the canning season. These employes were to begin work any time between the first and the twentieth of August and continue until frost comes. One office of the Bureau received an order from a certain county for two hundred men, women and children for fruit gathering. This order was from one farmer only. He proposed to establish camps for the employes,

and he stated that there was a possibility of piece workers making from one to five dollars a day. An effort was made to fill this order with people of one nationality.

The Bureau also among general orders received a request from a manufacturing company to send them a rolling mill superintendent, and efforts are being made to fill this order.

The Bureau has also received an order from a corporation in the western part of the State for several mechanical or civil engineers to take charge of the efficiency part of their time department. Men in these positions have an excellent opportunity to show their ability to do original work. Several of the applicants, registered for positions at the Bureau, have been referred to these positions.

The Bureau is able, through its files of orders, to give applicants information concerning openings in all lines of work, the wages paid therefor and the living conditions thereabout. This phase of the work is like that which obtains in England with the exception that the English government has at its disposal funds for the transportation of workmen from one section to another. In some cases, corporations have such urgent necessity for employes that they even forward the necessary carfare to the Bureau. The American workman, more especially the mechanic, is usually able to pay his way, and information as to the wages, etc., is sufficient for him. For this reason many skilled workmen who were out of work from one cause or another have been given placement directly and promptly with employers needing their services.

A man highly educated, and a graduate of an institute of technology in a New England state, made application to this Bureau for a position in his line of work. This applicant had had fourteen years of experience, but was out of employment because of a change in the management of the company with which he had formerly been employed. Within an hour after his application had been filed, he was on the train going to a place where work had been secured for him at good wages through the efforts of the Bureau. The following extract from his letter shows his appreciation of the Bureau's assistance:

> Dear Sir:—I have secured a satisfactory position with the ———— Company. I wish to thank you for your courteous treatment and efficient methods.
>
> Sincerely,

The entry of the United States into the world war has already made a tremendous draft upon the young men of the State, especially the young men in the various institutions of learning. Those who were pursuing courses in electrical, civil or mechanical engineering have been called upon by the government to such an extent

that a shortage of men for the various industrial plants of the State has been created. The increased activities during the summer months, of practically all branches of industrial employment, have hitherto made temporary openings which were readily filled by these young men. Their withdrawal from the fields of production is responsible in a large measure for the number of requests that have come into the office for men skilled in engineering. Many of the young men who have not reached the conscription age, and who feel that they are performing equally as patriotic a service by engaging in making war necessities have entered manufacturing and munition plants through the efforts of the Employment Bureau.

Although the establishment of the Employment Bureau is of comparatively recent date and the activities of the Bureau of but short duration, it has already made itself an indispensible part of the State government both to employers and employes. This growth has been simply the natural development of an institution, whose need had been long felt, and whose efficient service inspired the public with confidence as to its methods of procedure and the satisfactory accomplishment of its aims.

The following table shows the orders received from employers and the placement of applicants in positions for two months of 1917:

Date.	Applications.	Openings.	Applicants Sent to Positions.	Applicants Receiving Positions.
April, 1916,.....	2373	2881	1315	1041
April, 1917,.....	1887	3486	2100*	1818
May, 1916,.....	2630	3926	1413	1114
May, 1917,.....	2634	5536	2724*	2365

*These figures include applications made during previous months and on file in the Bureau.

REPORT OF BUREAU OF EMPLOYMENT, ALL OFFICES.
MAY, 1917.

Harrisburg.

Number of persons asked for by employers, ...	2,241
Number of applications for positions, ...	438
Number of persons referred to positions, ...	414
Number of positions filled, ...	381

Philadelphia.

Number of persons asked for by employers,	1,476
Number of applications for positions,	2,097
Number of persons referred to positions,	1,346
Number of positions filled,	1,134

Johnstown.

Number of persons asked for by employers,	183
Number of applications for positions,	96
Number of persons referred to positions,	89
Number of positions filled,	72

Pittsburgh.

Number of persons asked for by employers,	1,440
Number of applications for positions,	909
Number of persons referred to positions,	757
Number of positions filled,	695

Altoona.

Number of persons asked for by employers,	196
Number of applications for positions,	155
Number of persons referred to positions,	118
Number of positions filled,	103

Totals for all Offices.

Total number of persons asked for by employers,	5,536
Total number of applications for positions,	3,695
Total number of persons referred to positions,	2,724
Total number of positions filled,	2,385

REPORT OF BUREAU OF EMPLOYMENT.
JUNE, 1917.

Harrisburg.

Number of persons asked for by employers,	281
Number of applications for positions,	406
Number of persons referred to positions,	317
Number of persons receiving positions,	298

Philadelphia.

Number of persons asked for by employers,	1,220
Number of applications for positions,	1,849
Number of persons referred to positions,	1,245
Number of persons receiving positions,	1,072

Johnstown.

Number of persons asked for by employers,	132
Number of applications for positions,	113
Number of persons referred to positions,	99
Number of persons receiving positions,	85

Pittsburgh.

Number of persons asked for by employers,	1,440
Number of applications for positions,	651
Number of persons referred to positions,	571
Number of persons receiving positions,	508

Altoona.

Number of persons asked for by employers,	97
Number of applications for positions,	122
Number of persons referred to positions,	92
Number of persons receiving positions,	82

Totals for all Offices.

Total number of persons asked for by employers.	3,170
Total number of applications for positions,	3,141
Total number of persons referred to positions,	2,324
Total number of persons receiving positions,	2,045

REPORT OF BUREAU OF EMPLOYMENT.
JULY, 1917.

Harrisburg.

Number of persons asked for by employers,	546
Number of applications for positions,	520
Number of persons referred to positions,	477
Number of positions filled,	453

Philadelphia.

Number of persons asked for by employers,	1,099
Number of applications for positions,	1,581
Number of persons referred to positions,	1,059
Number of positions filled,	956

Johnstown.

Number of persons asked for by employers,	199
Number of applications for positions,	120
Number of persons referred to positions,	117
Number of positions filled,	98

Pittsburgh.

Number of persons asked for by employers,	1,008
Number of applications for positions,	596
Number of persons referred to positions,	501
Number of positions filled,	460

Altoona.

Number of persons asked for by employers,	90
Number of applications for positions,	103
Number of persons referred to positions,	77
Number of positions filled,	56

Totals for all Offices.

Number of persons asked for by employers,	2,942
Number of applications for positions,	2,920
Number of persons referred to positions,	2,231
Number of positions filled,	2,023

PLACEMENT WORK OF HARRISBURG OFFICE FOR THE MONTH OF JULY, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Labor,	18.8	35.8	35.2
Clerical and commercial,	6.2	14.1	11.1
Semi-skilled,	3.7	7.0	4.9
Skilled,	70.7	41.6	47.5
Technical and professional,	.4	1.2	1.2

WOMEN'S AND GIRLS' DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Domestic and personal,	71.8	55.2	70.1
Technical and professional,	1.3	2.0	1.6
Commercial and clerical,	24.8	39.6	25.0
Factory work,	1.9	3.1	3.2

PLACEMENT WORK OF THE PHILADELPHIA OFFICE FOR THE MONTH OF JULY, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Labor,	22.1	15.5	20.8
Clerical and commercial,	6.3	8.7	6.7
Semi-skilled,	19.3	18.1	21.5
Skilled,	51.6	56.7	50.7
Technical and professional,	.7	1.0	.3

WOMEN'S AND GIRLS' DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Domestic and personal,	62.2	48.0	57.3
Technical and professional,	3.5	2.7	5.1
Commercial and clerical,	21.0	29.7	18.8
Factory work,	13.3	19.6	18.8

PLACEMENT WORK OF THE PITTSBURGH OFFICE FOR THE MONTH OF JULY, 1917, ACCORDING TO CLASSES OF OCCUPATIONS.

MEN'S DEPARTMENT.

Class.	Per cent. of total.		
	Openings.	Applications for Positions.	Placements.
Labor,	44.0	16.0	17.5
Clerical and commercial,	3.0	11.0	8.0
Semi-skilled,	15.0	22.0	31.0
Skilled,	38.0	51.0	43.5
Technical and professional,	----	----	----

RECORDS OF THE BUREAUS OF STATISTICS AND INFORMATION AND WORKMEN'S COMPENSATION SHOW THAT REPORTS OF 1877 WORKERS KILLED AND 139,598 OTHER WORKERS INJURED WERE RECEIVED DURING THE FIRST SEVEN MONTHS OF 1917. DURING THE SAME PERIOD, WORKMEN'S COMPENSATION, AMOUNTING TO $2,889,639.35, WAS AWARDED TO DEPENDENTS OF WORKERS KILLED AND $1,429,353.41 WAS PAID TO WORKERS DISABLED.

During the first seven months of 1917, workmen's compensation amounting to $2,889,639.35 was awarded to dependents of workers killed, while $1,429,353.41 was paid to workers injured in industry and disabled for more than fourteen days. Of the total amount of compensation awarded in fatal cases, to be paid over periods of time, up to sixteen years, there has been $316,309.84 paid during the first seven months of 1917. In other words, from January 1, 1917, to August 1, 1917, workmen's compensation payments and awards amounted to $4,318,992.76. Records of the Bureaus of Statistics and Information and Compensation, up to August 1, 1917, are given in the following table:

Accident Reports Received:	Fatal.	Total.
January,	232	21,839
February,	227	19,395
March,	291	23,328
April,	282	18,514
May,	287	19,414
June,	294	19,833
July,	264	19,152
Totals,	1,877	141,475

Agreements approved:	Fatal.	Total.
January,	136	6,890
February,	142	5,683
March,	154	7,509
April,	332	6,905
May,	186	6,924
June,	185	6,387
July,	150	5,534
Totals,	1,285	45,832

Compensation Awarded and Paid:	Fatality Awarded.	Fatality Paid.	Disability Paid.
January,	$342,750 56	$41,867 89	$217,511 60
February,	387,795 46	25,338 34	174,132 22
March,	410,168 48	29,215 85	209,213 80
April,	389,218 05	67,171 13	215,301 39
May,	410,400 14	72,428 56	231,205 64
June,	507,399 06	39,922 46	189,216 75
July,	441,907 60	40,365 61	192,772 01
Totals, 1917,	$2,889,639 35	$316,309 84	$1,429,353 41
Totals, 1916,	2,965,255 72	147,281 54	1,259,619 71
Grand Totals,	$5,854,895 07	$463,591 38	$2,688,973 12

ANALYTICAL TABLES, COMPILED IN THE BUREAU OF STATISTICS AND INFORMATION AND THE BUREAU OF WORKMEN'S COMPENSATION OF THE DEPARTMENT OF LABOR AND INDUSTRY, SHOW COST OF ACCIDENTS WHICH RESULTED IN THE KILLING AND INJURING OF MINERS IN THE ANTHRACITE AND BITUMINOUS COAL FIELDS OF PENNSYLVANIA DURING THE YEAR 1916.

Four tables of accidents causing death or disability to workers in and about the anthracite and bituminous coal mines of Pennsylvania, during the entire year 1916, have been compiled from workmen's compensation agreements filed in the Bureau of Workmen's Compensation and from accident reports submitted to the Bureau of Statistics and Information of the Department of Labor and Industry.

Two of these tables—one for each mining field—have been compiled from the compensation agreements for fatalities, and for injuries causing disability for a period exceeding fourteen days.

The other two tables set forth the accidents to workers, in each of the mining fields, in cases where the disability did not exceed fourteen days. The tabulations covering compensable accidents include only those cases where workmen's compensation was actually paid and awarded.

Fatalities and serious accidents in which compensation agreements have not been filed, or where the cases were not compensable under the law, are not included in the tabulation. The tables do, however, include compensable cases for fatalities in which it was necessary for the employers to pay only funeral expenses.

These compensation tables indicate 792 fatalities in the anthracite and bituminous coal fields during 1916, while all accident reports received by the Bureau of Statistics and Information indicate 1,112 workers killed in and about mines during the same year. The difference in the two totals represents open cases and cases not compensable under the law, or cases otherwise classified for compensation in the Workmen's Compensation Bureau.

Anthracite Field—Compensable Accidents in 1916.

There were 491 workers killed in the anthracite field, for whom workmen's compensation was awarded, during 1916 and 9,413 workers injured and disabled for periods exceeding fourteen days, and paid compensation.

The average medical cost per accident was $20.14.

The amount of compensation paid and awarded during 1916 for fatality cases amounted to $1,260,804.

The amount of compensation paid for disability cases during the year 1916 was $410,845, and it has been estimated that the amount required to carry these 1916 disability claims to completion would be $56,602.

The total amount of compensation paid and awarded in the anthracite field during 1916, and estimated to complete disability claims, was $1,728,251.

The estimated medical cost for all compensation accidents in the anthracite field, during 1916, was $199,468.

The total number of dependents of workers killed and injured in and about anthracite mines during 1916 was 5,409.

Bituminous Field—Compensable Accidents in 1916.

There were 301 workers killed in the bituminous field, for whom workmen's compensation was awarded, during 1916 and 10,710 workers injured and disabled for periods exceeding fourteen days, and paid compensation.

Two women employes were injured in the bituminous field and disabled for periods exceeding fourteen days. They were paid compensation.

The average medical cost per accident was $18.92.

The amount of compensation paid and awarded during 1916 for fatality cases amounted to $771,748.

The amount of compensation paid for disability cases during the year 1916 was $516,493, and it has been estimated that the amount required to carry these 1916 disability claims to completion would be $37,795.

The total amount of compensation paid and awarded in the bituminous field during 1916, and estimated to complete disability claims was $1,326,036.

The estimated medical cost for all compensation accidents in and about bituminous mines during 1916, was $208,329.

The total number of dependents of miners killed and injured in the bituminous field during 1916 was 10,179.

Anthracite Field—Non-compensable Accidents in 1916.

There were 16,979 workers, in and about anthracite mines, injured during the year 1916 and disabled for periods less than fourteen days. One of these injured workers was a woman.

The total number of days lost by workers disabled for periods less than fourteen days amounted to 96,711.

The wages lost by workers disabled for periods less than fourteen days amounted to $227,629.

The average medical cost for each accident was $5.52.

The average number of days lost per accident was 5.

The average wage loss per accident was $13.

The total estimated medical cost was $93,727.

Bituminous Field—Non-compensable Accidents in 1916.

There were 17,510 workers, in and about bituminous mines, injured during the year 1916 and disabled for periods less than fourteen days. One of these injured workers was a woman.

The total number of days lost by workers disabled for periods less than fourteen days amounted to 110,710.

The wages lost by workers disabled for periods less than fourteen days amounted to $299,951.

The average medical cost for each accident was $5.03.

The average number of days lost per accident was 6.

The average wage loss per accident was $17. The total estimated medical cost was $88,072.

Analytical Tables.

The following pages present, in detail, the four tables showing the accidents compensable and non-compensable in both the bituminous and anthracite coal fields in Pennsylvania during the year 1916. These tables show the causes, nature of injuries, part injured and sex of the victims. The compensable accident tables show the amounts of compensation paid and awarded and other data.

TABLE OF COMPENSABLE ACCIDENTS IN THE ANTHRACITE COAL INDUSTRY IN PENNSYLVANIA, DURING THE YEAR 1916, SHOWING CAUSES, NATURE OF INJURIES, PART INJURED, AND SEX OF WORKERS KILLED OR DISABLED FOR MORE THAN FOURTEEN DAYS—ALSO SHOWING AMOUNTS OF COMPENSATION PAID AND AWARDED IN FATAL AND IN DISABILITY CASES, COST OF MEDICAL SERVICES, NUMBERS OF DEPENDENTS AND OTHER DATA.

CAUSE.	NATURE OF INJURY.								PART INJURED.				
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Puncture.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.
MACHINERY.													
Boilers, steam pipes, &c., (Inc. Ex.),	3			1				1	1	3		1	
Prime movers (engines and motors),		2		2				1	1	2			
Transmission apparatus,	2	5	5	11		1		7		7		3	1
Working machines,		13	12	10				3	10			6	4
Adjusting machine or work,		5	4	3				3	2				
Starting,		3		1				1		1			
Operating and feeding,		4	13	7				2	3			4	5
Stopping,		1											
Oiling,		5	2	3								3	2
Cleaning,		1	4					1	2				
Repairing,	1	3	4	1				1		1			3
Breaking of machine or work,		11	1						4			1	2
Flying objects,		5	6	3		1		3		1	7	1	2
All others,		3	1										
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.													
Corrosive substances,	3		1					1			4		1
Electricity,	8	1	1	1				7	8	1	1	3	2
Explosives,	221	44	99	56			3	69	107	225	19	34	58
Hot substances and flames,	268	1	2	1		3	1	2	24	160	2	19	47
Conflagration,	3									2		1	

TABLE OF COMPENSABLE ACCIDENTS IN THE ANTHRACITE INDUSTRY—Continued.

CAUSE.	NATURE OF INJURY.								PART INJURED.				
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Puncture.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.
FALLING OBJECTS.													
Rock and earth,	4	990	826	547	3	24	8	188	584	318	50	133	241
Collapse of buildings and walls,		1		3								1	
Collapse of scaffolds and stagings,		4	4	6				2	7	1			1
Collapse of piled up material,		2	3	9					8			1	
Objects dropped by other persons,		10	7	2	1			1	2				4
Objects falling from trucks or vehicles,		13	10	4	1			1	2			1	1
Objects falling from buildings, etc.,		6	2	3				1	3	2			
All others,	2	183	71	75		1	2	36	66	16	3	19	23
FALL OF PERSONS.													
From ladder,		5	5	15	1			2	6			3	5
From scaffolds or platforms,	1	10	5	14					9	3	1	4	4
From vehicles,		6	2	7				3	9	1		4	1
From structures in course of erection,		1											
From structures (all others),		3		3	1				3	1			1
From other elevations,		19	11	39		1		4	20	11		9	8
Into excavations,		5		4					6				
Into other openings,	2	16	7	16				5	18	9		1	1
On level,	1	158	114	188	9	7	5	47	167	25	2	55	52
All others,		6	2	12					9	1		2	1
HANDLING OF TOOLS AND OBJECTS.													
Tools in hands of injured person,	1	88	164	28	1	7	11	29	28	11	2	4	59
Tools in hands of fellow workman,		16	14	8			3	1	4	3		4	9
Handling sharp objects,		7	93	1		9	8	12	1	1	1	2	35
Loading and unloading,	3	128	95	44	1	2		26	33	15	1	9	40
Carrying and lifting objects, not loading or unloading,	1	96	72	199	28	7	1	50	248	3		8	44
All others,		346	352	104	8	16	4	71	65	10	1	27	141

POWER VEHICLES—ON TRACK.													
Coupling or uncoupling cars,		149	55	40			1	13	15	10		25	11
Defective equipment,		1	1										
Fell from, over or into,	1	53	16	43	1	1		8	44	11	1	7	4
Improperly loaded ladles or cars,				1									
Loading or unloading material,		72	67	27	1	3	2	7	20	5	3	7	15
Struck by car or engine,		298	90	157	1		1	37	134	32	1	24	16
Struck by overhead or side obstruction,		69	30	53	1			14	63	17		24	13
Unlocked frogs or guard rails,													
Collisions,		20	8	8				3	8	2		1	
Derailment and replacing cars,	1	83	35	48	1			14	49	10		6	9
Not on track,													
On water,													
STEPPING ON SHARP OBJECTS.													
Nails,		1	13	1		2	36	6					1
All others,		1	1	3				1					
Running into or striking against objects,	3	128	127	31		11	11	39	34	25	4	40	62
Poisonous substances,			10	1		14	1	8	1	2		2	15
MISCELLANEOUS.													
Flying objects—Not from machines, etc.,	5	107	193	38	1	10	5	160	51	52	257	20	32
Animals,		94	52	53	1	1	2	24	52	29	4	20	19
Doors, windows, gates (not elevator),		28	20	9				4	7	4		2	7
Asphyxiation and suffocation,	1	1						11	12				
Lightning,													
Heat prostrations,													
Frost bites,													
Drowning,								2					1
Intentional violence,								1	1				
All others,		1	1	1								1	1
		44	29	37	4		2	24	33	8	2	6	18
TOTALS,	535	3,376	2,762	1,982	65	121	107	956	1,983	1,041	366	548	1,022

TABLE OF COMPENSABLE ACCIDENTS IN THE ANTHRACITE INDUSTRY—Continued.

CAUSE.	PART INJURED.				LOSS OF PARTS.							DEGREE.	
	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Fatal.	Serious.
MACHINERY.													
Boilers, steam pipes, &c., (Inc. Ex.),												1	4
Prime movers (engines and motors),		1	1									4	27
Transmission apparatus,	6	9	5									7	31
Working machines,	7	5	5	1		1						1	14
Adjusting machine or work,	12	1											5
Starting,	1	2	1									2	24
Operating and feeding,	11	1	2										1
Stopping,			1										10
Oiling,	3	1	1			1		2				1	5
Cleaning,	4												10
Repairing,	5	1										1	11
Breaking of machine or work,		3	1	1									18
Flying objects,	2	5			1								4
All others,		1	3										
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.													
Corrosive substances,													5
Electricity,	2	1			1							7	11
Explosives,	6	34	8	1	11	2	2					100	302
Hot substances and flames,	1	3	22									10	268
Conflagration,													3
FALLING OBJECTS.													
Rock and earth,	361	423	348	119	3	3	2	8	1	1	3	212	2,378
Collapse of buildings and walls,		1	2										4
Collapse of scaffolds and stagings,	3	2	2									1	15

FALLING OBJECTS—Continued.												
Collapse of piled up material,	1	3		1							1	13
Objects dropped by other persons,	10		3	2				1				21
Objects falling from trucks or vehicles,	12	7	2	4				1				29
Objects falling from buildings, etc.,	1	2	3	1							1	11
All others,	46	51	100	46		1		2			1	10	360
FALL OF PERSONS.												
From ladder,	1	7	5	1								28
From scaffolds or platforms,	3	4	1	1							2	28
From vehicles,		3									1	17
From structures in course of erection,			1									1
From structures (all others),	1	1									1	6
From other elevations,	4	15	6	1							5	69
Into excavations,			3								2	7
Into other openings,	2	8	6								6	39
On level,	38	123	63	5				2		2	3	527
All others,	2	5										20
HANDLING OF TOOLS AND OBJECTS.												
Tools in hands of injured person,	142	41	30	12	1			3			2	627
Tools in hands of fellow workman,	17	3	2									42
Handling sharp objects,	81	8	1				1	2				130
Loading and unloading,	115	29	38	19				3			3	296
Carrying and lifting objects, not loading or unloading,	98	15	26	12				1			3	451
All others,	565	33	36	20			2	16				901
POWER VEHICLES—ON TRACK.												
Coupling or uncoupling cars,	115	62	18	2				4	1	1	6	252
Defective equipment,	2											2
Fell from, over or into,		32	23	1		1					10	113
Improperly loaded ladles or cars,	1											1
Loading or unloading material,	80	13	23	13							3	176
Struck by car or engine,	63	200	77	37		2		6	7	3	43	541
Struck by overhead or side obstruction,	26	20	8	1						1	5	162
Unlocked frogs or guard rails,												
Collisions,	7	14	4	3				1			3	36
Derailment and replacing cars,	30	53	22	3					1		5	177
Not on track,												
On water,												
STEPPING ON SHARP OBJECTS.												
Nails,		1	57									59
All others,		2	4									6

TABLE OF COMPENSABLE ACCIDENTS IN THE ANTHRACITE INDUSTRY—Continued.

CAUSE.	PART INJURED.				LOSS OF PARTS.							DEGREE.	
	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Fatal.	Serious.
Running into or striking against objects,	87	70	22	6				2				1	349
Poisonous substances,	10	3	1										34
MISCELLANEOUS.													
Flying objects—Not from machines, etc.,	38	48	19	2	39			2	1			3	516
Animals,	33	43	21	6	1			2				6	221
Doors, windows, gates (not elevator),	30	8	2	1			1						61
Asphyxiation and suffocation,			1									10	3
Lightning,													
Heat prostrations,													
Frost bites,	1												2
Drowning,												1	
Intentional violence,		1											3
All others,	27	28	15	3				1	2		1	8	132
TOTALS,	2,116	1,463	1,040	325	57	11	8	59	13	6	7	491	9,413

TABLE OF COMPENSABLE ACCIDENTS IN THE ANTHRACITE INDUSTRY—Continued.

CAUSE.	SEX.		COMPENSATION PAID AND AWARDED.						
	Male.	Female.	Amount paid disability cases.	Balance (estimated) payable disability cases.	Fatal cases, amount paid and awarded.	Estimated medical cost.	Total compensation.	Number of dependents of workers killed and injured.	Total number of accidents.
MACHINERY.									
Boilers, steam pipes, &c., (Inc. Ex.),	4		$263			$81	$266		4
Prime movers (engines and motors),	5		263		$4,485	101	4,748	8	5
Transmission apparatus,	31		1,664		8,172	624	9,836	16	31
Working machines,	38		2,814	$351	7,404	765	10,569	15	38
Adjusting machine or work,	15		234		3,002	302	3,236	9	15
Starting,	5		113			101	113	1	5
Operating and feeding,	26		524		1,400	524	1,924	12	26
Stopping,	1		43			20	43	4	1
Oiling,	10		1,361	5		201	1,366		10
Cleaning,	6		123		730	121	853		6
Repairing,	10		418			201	418	4	10
Breaking of machine or work,	12		210		700	242	910	8	12
Flying objects,	18		1,987	20		363	2,007	15	18
All others,	4		122			81	122	1	4
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.									
Corrosive substances,	5		100			101	100		5
Electricity,	18		1,018		20,674	363	21,692	25	18
Explosives,	492		36,331	12,311	282,001	9,909	330,643	289	492
Hot substances and flames,	278		7,783	12	27,738	5,599	35,533	191	278
Conflagration,	3		131			60	131		3
FALLING OBJECTS.									
Rock and earth,	2,590		115,850	25,065	626,426	52,163	767,341	1,708	2,590
Collapse of buildings and walls,	4		471			81	471	5	4
Collapse of scaffolds and stagings,	16		460	15	3,277	322	3,752	6	16

CAUSE.	SEX.		COMPENSATION PAID AND AWARDED.						
	Male.	Female.	Amount paid disability cases.	Balance (estimated) payable disability cases.	Fatal cases, amount paid and awarded.	Estimated medical cost.	Total compensation.	Number of dependents of workers killed and injured.	Total number of accidents.
FALLING OBJECTS—Continued.									
Collapse of piled up material,	14		395		4,798	282	5,193	4	14
Objects dropped by other persons,	21		561			423	561	21	21
Objects falling from trucks or vehicles,	29		1,249			584	1,249	15	29
Objects falling from buildings, etc.,	12		272	313	700	242	1,285	10	12
All others,	370		11,617	1,027	25,722	7,452	38,366	204	370
FALL OF PERSONS.									
From ladder,	28		1,274			561	1,274	15	28
From scaffolds or platforms,	30		966		808	604	1,774	11	30
From vehicles,	18		372		700	363	1,072	1	18
From structures in course of erection,	1		21			20	21	3	1
From structures (all others),	7		224		5,093	141	5,317	7	7
From other elevations,	74		474		5,904	1,490	6,378	23	74
Into excavations,	9		415		5,463	181	5,881	12	9
Into other openings,	45		1,943		19,292	906	21,235	31	45
On level,	530		4,594	681	4,765	10,674	20,040	247	530
All others,	20		637			403	657	2	20
HANDLING OF TOOLS AND OBJECTS.									
Tools in hands of injured person,	329		7,807	841	4,715	6,626	13,363	132	329
Tools in hands of fellow workman,	42		1,074			846	1,074	22	42
Handling sharp objects,	130		4,037			2,618	4,037	55	130
Loading and unloading,	299		7,176	39	9,075	6,022	16,290	147	299
Carrying and lifting objects, not loading or unloading,	454		10,173		6,697	9,144	16,870	349	454
All others,	901		21,284	797		18,146	22,081	387	901

POWER VEHICLES—ON TRACK.									
Coupling or uncoupling cars,	258		7,715	2,371	3,264	5,196	13,350	59	258
Defective equipment,	2		14			40	14		2
Fell from, over or into,	123		5,133		21,131	2,477	26,264	31	123
Improperly loaded ladles or cars,	1		10			20	10		1
Loading or unloading material,	179		4,100		300	3,605	4,400	106	179
Struck by car or engine,	584		36,647	5,552	57,631	11,762	99,830	250	584
Struck by overhead or side obstruction,	167		6,222		3,944	3,363	10,266	61	167
Unlocked frogs or guard rails,									
Collisions,	39		1,325	583	9,308	785	11,219	10	39
Derailment and replacing cars,	182		7,196	4,192	4,895	3,665	16,283	100	182
Not on track.									
On water,									
STEPPING ON SHARP OBJECTS.									
Nails,	59		1,431			1,188	1,431	28	59
All others,	6		135			121	135		6
Running into or striking against objects,	350		8,299	12	5,303	7,049	3,614	193	350
Poisonous substances,	34		937			685	937	38	34
MISCELLANEOUS.									
Flying objects—Not from machines, etc.,	519		58,436	1,897	10,758	10,453	71,091	351	519
Animals,	227		5,760	140	10,087	4,572	15,987	54	227
Doors, windows, gates (not elevator),	61		3,095			1,229	3,095	36	61
Asphyxiation and suffocation,	13		80		31,276	262	31,356	26	13
Lightning,									
Heat prostrations,									
Frost bites,									
Drowning,	2		15			40	15		2
Intentional violence,	1				6,358	20	6,358		1
All others,	3		38	375		60	413		3
	140		5,276		16,805	2,820	22,081	48	140
TOTALS,	9,904		$410,845	$56,602	$1,260,804	$199,468	$1,728,251	5,409	9,904

Average medical cost per accident, $20.14.

TABLE OF COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY IN PENNSYLVANIA DURING THE YEAR 1916, SHOWING CAUSES, NATURE OF INJURIES, PART INJURED, AND SEX OF WORKERS KILLED OR DISABLED FOR MORE THAN FOURTEEN DAYS—ALSO SHOWING AMOUNTS OF COMPENSATION PAID AND AWARDED IN FATAL AND IN DISABILITY CASES, COST OF MEDICAL SERVICES, NUMBERS OF DEPENDENTS AND OTHER DATA.

CAUSE.	NATURE OF INJURY.								PART INJURED.				
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Puncture.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.
MACHINERY.													
Boilers, steam pipes, &c., (Inc. Ex.),	1											1	
Prime movers (engines and motors),		1	2	1				1	1				
Transmission apparatus,		27	5	11			1	5	4	1		1	1
Working machines,		28	21	9				6	1			4	4
Adjusting machine or work,		11	8	2				3	2	1		2	2
Starting,		2	3	1									
Operating and feeding,		30	22	10				8	1	1		6	5
Stopping,			1										
Oiling,		2	7	3				1	2	2		2	2
Cleaning,			3										1
Repairing,		1	1	1				1			1		1
Breaking of machine or work,		4	1	2			1	3	1		1		
Flying objects,		3	2	4				7	1	1	7	2	1
All others,		6	6	4				1	2	1			1
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.													
Corrosive substances,	7							1	1	1	3		1
Electricity,	35	7	1	3			1	15	19	6	2	3	15
Explosives,	49	15	30	10			3	50	46	43	16	6	31
Hot substances and flames,	95	2		1				2	7	27	4	11	23
Conflagration,													

FALLING OBJECTS.													
Rock and earth,	7	1,581	749	956	6	16	16	338	856	360	76	133	238
Collapse of buildings and walls,		1	1							1			
Collapse of scaffolds and stagings,		3	1	6				1	4				
Collapse of piled up material,	1	4		2				1	1	1		1	
Objects dropped by other persons,		4	5	5				1	4	1			2
Objects falling from trucks or vehicles,		10	3	5				3	5				1
Objects falling from buildings, etc.,		3	3	4					1	2		1	1
All others,		219	54	86	1	2	3	33	64	21	7	22	18
FALL OF PERSONS.													
From ladder,		2		8						1		1	1
From scaffolds or platforms,		3	2	10				2	7		1	3	3
From vehicles,		16	3	19				4	16	6		3	2
From structures in course of erection,		1					1			1			
From structures (all others),		4	3	6					3	1		2	2
From other elevations,		13	6	25				5	25	6		3	1
Into excavations,		1		1					1	1			
Into other openings,	1	3	2	15				1	10	1		2	1
On level,	3	116	46	202	9	4	2	64	154	10	2	37	38
All others,		9	1	12				2	8			2	1
HANDLING OF TOOLS AND OBJECTS.													
Tools in hands of injured person,		91	164	40	4	7	19	58	32	4	14	12	66
Tools in hands of fellow workman,		9	21	4		1	9	11		3	2	7	17
Handling sharp objects,		3	45	1		7	3	14	1	1		1	26
Loading and unloading,		109	58	52	2	3	1	24	40	7		5	18
Carrying and lifting objects, not loading or unloading,		100	52	239	58	3	1	103	345	4	1	12	32
All others,		421	254	186	7	10	5	94	115	2	2	38	115
POWER VEHICLES—ON TRACK.													
Coupling or uncoupling cars,	1	130	53	38		1		17	30	6		12	22
Defective equipment,		1						2	2				
Fell from, over or into,	3	41	14	57	3			20	54	8		8	9
Improperly loaded ladles or cars,		1							1				
Loading or unloading material,	1	36	19	18				14	19	1		2	5
Struck by car or engine,	2	456	126	240	3	2	5	73	205	27	1	42	42
Struck by overhead or side obstruction,	1	131	67	99			2	31	124	23	2	28	28
Unlocked frogs or guard rails,		1		2						1			1
Collisions,		34	19	28	1		1	7	24	7	2	5	2
Derailment and replacing cars,	1	167	54	108	13	1	1	42	98	12	2	15	24
Not on track,		3	1	2				1	1	1			
On water,													

TABLE OF COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY—Continued.

CAUSE.	NATURE OF INJURY.								PART INJURED.				
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Puncture.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.
STEPPING ON SHARP OBJECTS.													
Nails,		2				1	13	4			1		
All others,		2	3	4		1		1	1				
Running into or striking against objects,		99	52	63	3	17	2	63	73	14	4	36	46
Poisonous substances,		6	6			23	1	19	2		2	1	19
MISCELLANEOUS.													
Flying objects—Not from machines, etc.,	2	67	98	27		4	6	217	29	22	279	7	12
Animals,	1	70	33	67	2		1	36	51	18	7	14	20
Doors, windows, gates (not elevator),		17	5	11		1		2	7			3	5
Asphyxiation and suffocation,													
Lightning,								2	2	1			
Heat prostrations,		1						2					
Frost bites,								2	1				
Drowning,								1			1		
Intentional violence,													
All others,		22	15	25	2	6	1	21	26	3	3	1	11
TOTALS,	210	4,152	2,151	2,735	114	110	99	1,440	2,530	632	443	497	917

TABLE OF COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY—Continued.

CAUSE.	PART INJURED.				LOSS OF PARTS.							DEGREE.	
	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Fatal.	Serious.
MACHINERY.													
Boilers, steam pipes, &c., (Inc. Ex.),													1
Prime movers (engines and motors),	2	1	1										5
Transmission apparatus,	7	6	21	8				1					49
Working machines,	27	11	13	4		1		6	1			1	63
Adjusting machine or work,	8	1	5	3			1				1		24
Starting,	1	4	1									1	5
Operating and feeding,	31	16	8	2				3	1				70
Stopping,	1												1
Oiling,	4			1				1			1	1	12
Cleaning,	2							2					3
Repairing,	2												4
Breaking of machine or work,	1	3	5										11
Flying objects,		2	1	1	1								16
All others,	4	4	3	2									17
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.													
Corrosive substances,	1	1											8
Electricity,	8	7	2									11	51
Explosives,	3	8	3	1	10		5					32	125
Hot substances and flames,	4	10	14										100
Conflagration,													
FALLING OBJECTS.													
Rock and earth,	336	712	721	237	4	1	2	7	5	2		142	3,527
Collapse of buildings and walls,			1										2

TABLE OF COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY—Continued.

CAUSE.	PART INJURED.				LOSS OF PARTS.							DEGREE.	
	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Fatal.	Serious.
FALLING OBJECTS—Continued.													
Collapse of scaffolds and stagings,	1	1	5										11
Collapse of piled up material,	2	1	2									1	7
Objects dropped by other persons,	5		2	1				1					15
Objects falling from trucks or vehicles,	4	3	5	3									21
Objects falling from buildings, etc.,	1	1	1	2							2		10
All others,	61	45	87	73				3			1	11	387
FALL OF PERSONS.													
From ladder,		2	5									1	9
From scaffolds or platforms,		2	1										17
From vehicles,	1	9	4	1								2	40
From structures in course of erection,			1										2
From structures (all others),	2		2	1		1					3		13
From other elevations,	1	6	6	1								5	44
Into excavations,												1	1
Into other openings,		4	4									1	21
On level,	32	85	79	9				3		1		6	440
All others,	2	4	5	2									24
HANDLING OF TOOLS AND OBJECTS.													
Tools in hands of injured person,	144	41	54	16	3			1			1	1	382
Tools in hands of fellow workman,	15	6	2	3	2							1	54
Handling sharp objects,	43		1					1					73
Loading and unloading,	83	20	42	34				6					249
Carrying and lifting objects, not loading or unloading,	85	25	37	15				6				1	555
All others,	496	62	96	51			4	26		1			977

POWER VEHICLES—ON TRACK.													
Coupling or uncoupling cars,	126	19	18	7			2	5					240
Defective equipment,	1												3
Fell from, over or into,	2	29	24	3			1		3	1		6	131
Improperly loaded ladles or cars,													1
Loading or unloading material,	27	10	18	6				2				2	86
Struck by car or engine,	81	234	195	80		4		9	8	3	11	36	871
Struck by overhead or side obstruction,	76	31	19					2				10	321
Unlocked frogs or guard rails,		1											3
Collisions,	2	30	16	2				1	2			4	86
Derailment and replacing cars,	81	60	71	24				4		1	2	10	377
Not on track,	2	1	1	1									7
On water,													
STEPPING ON SHARP OBJECTS.													
Nails,			17	2									20
All others,		2	7	1									11
Running into or striking against objects,	47	54	22	3				2				1	298
Poisonous substances,	22	8	1		2								55
MISCELLANEOUS.													
Flying objects—Not from machines, etc.,	16	37	18	1	41							1	420
Animals,	22	43	25	10	2							4	206
Doors, windows, gates (not elevator),	10	6	4	1								1	35
Asphyxiation and suffocation,													
Lightning,													
Heat prostrations,													3
Frost bites,	2												2
Drowning,				1								1	1
Intentional violence,					1								1
All others,	17	14	16	1	1			3				6	86
TOTALS,	1,954	1,682	1,712	614	67	7	15	95	20	9	22	301	10,710

TABLE OF COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY—Continued.

CAUSE.	SEX.		COMPENSATION PAID AND AWARDED.						
	Male.	Female.	Amount paid disability cases.	Balance (estimated) payable disability cases.	Fatal cases, amount paid and awarded.	Estimated medical cost.	Total compensation.	Number of dependents of workers killed and injured.	Total number of accidents.
MACHINERY.									
Boilers, steam pipes, &c., (Inc. Ex.),	1		$73			$19	$73		1
Prime movers (engines and motors),	5		254	$218		95	472	3	5
Transmission apparatus,	49		2,906	869		927	3,775	47	49
Working machines,	64		3,473		$844	1,211	4,317	68	64
Adjusting machine or work,	24		2,623			454	2,623	14	24
Starting,	6		154		4,625	114	4,779	13	6
Operating and feeding,	70		5,067	75		1,324	5,142	81	70
Stopping,	1		25			19	25		1
Oiling,	13		497		3,284	246	3,781	6	13
Cleaning,	3		39			57	39	6	3
Repairing,	4		220			76	220		4
Breaking of machine or work,	11		402	326		208	728	2	11
Flying objects,	16		1,692			303	1,692	15	16
All others,	17		789	100		322	889	21	17
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.									
Corrosive substances,	8		116			151	116		8
Electricity,	62		1,329		31,585	1,173	32,914	65	62
Explosives,	157		27,179	515	74,353	2,970	102,047	175	157
Hot substances and flames,	100		2,588			1,892	2,588	47	100
Conflagration,									
FALLING OBJECTS.									
Rock and earth,	3,668	1	180,219	23,753	393,263	69,417	597,235	3,641	3,669
Collapse of buildings and walls,	2		31			38	31		2
Collapse of scaffolds and stagings,	11		505			208	505	2	11

FALLING OBJECTS—Continued.									
Collapse of piled up material,	8		371		2,803	151	3,174	5	8
Objects dropped by other persons,	15		221			284	221	30	15
Objects falling from trucks or vehicles,	21		553			397	553	14	21
Objects falling from buildings, etc.,	10		244	37		189	281	10	10
All others,	398		9,128	278	27,059	7,530	36,465	438	398
FALL OF PERSONS.									
From ladder,	10		325		3,592	189	3,717	19	10
From scaffolds or platforms,	17		871	852		322	1,723	13	17
From vehicles,	42		986		3,312	795	4,298	19	42
From structures in course of erection,	2		337			38	337	1	2
From structures (all others),	13		1,572			246	1,572	3	13
From other elevations,	49		1,172	150	8,325	927	9,647	64	49
Into excavations,	2		18		4,441	38	4,459	9	2
Into other openings,	22		441		684	416	1,125	31	22
On level,	446		14,237	190	13,979	8,438	28,406	489	446
All others,	24		539			454	539	19	24
HANDLING OF TOOLS AND OBJECTS.									
Tools in hands of injured person,	383		11,070		50	7,246	11,120	340	383
Tools in hands of fellow workman,	55		2,678		123	1,041	2,801	49	55
Handling sharp objects,	73		1,938			1,381	1,938	92	73
Loading and unloading,	249		5,826			4,711	5,826	214	249
Carrying and lifting objects, not loading or unloading,	556		16,161	203	1,060	10,520	17,424	648	556
All others,	977		30,792			18,485	30,792	867	977
POWER VEHICLES—ON TRACK.									
Coupling or uncoupling cars,	240		7,550	139		4,541	7,689	96	240
Defective equipment,	3		86			57	86		3
Fell from, over or into,	137		7,841	346	19,447	2,592	27,634	97	137
Improperly loaded ladles or cars,	1		83			19	83		1
Loading or unloading material,	88		2,181		1,657	1,665	3,838	76	88
Struck by car or engine,	907		58,086	1,283	93,383	17,160	152,752	683	907
Struck by overhead or side obstruction,	331		10,747	78	28,930	6,263	39,755	283	331
Unlocked frogs or guard rails,	3		105			57	105		3
Collisions,	90		5,791	4,334	11,052	1,703	21,177	52	90
Derailment and replacing cars,	387		13,800	1,083	19,164	7,322	34,047	307	387
Not on track,	7		443			132	443	1	7
On water,									

TABLE OF COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY—Continued.

CAUSE.	SEX.		COMPENSATION PAID AND AWARDED.						
	Male.	Female.	Amount paid disability cases.	Balance (estimated) payable disability cases.	Fatal cases, amount paid and awarded.	Estimated medical cost.	Total compensation.	Number of dependents of workers killed and injured.	Total number of accidents.
STEPPING ON SHARP OBJECTS.									
Nails,	20	-------	296	----------	----------	378	296	22	20
All others,	11	-------	259	----------	----------	208	259	8	11
Running into or striking against objects,	299	-------	6,385	----------	1,940	5,657	8,325	217	299
Poisonous substances,	55	-------	3,380	----------	----------	1,041	3,380	55	55
MISCELLANEOUS.									
Flying objects—Not from machines, etc.,	420	1	53,346	2,083	3,428	7,965	58,857	445	421
Animals,	210	-------	7,354	441	8,125	3,973	15,920	149	210
Doors, windows, gates (not elevator),	36	-------	1,046	11	1,145	681	2,202	42	36
Asphyxiation and suffocation,	-------	-------	----------	----------	----------	----------	----------	----------	----------
Lightning,	-------	-------	----------	----------	----------	----------	----------	----------	----------
Heat prostrations,	3	-------	148	----------	----------	57	148	5	3
Frost bites,	2	-------	28	----------	----------	38	28	-------	2
Drowning,	2	-------	29	----------	100	38	129	-------	2
Intentional violence,	1	-------	4,000	----------	----------	19	4,000	-------	1
All others,	92	-------	3,848	431	10,195	1,741	14,474	61	92
TOTALS,	11,009	2	$516,493	$37,795	$771,748	$208,329	$1,326,036	10,179	11,011

Average medical cost per accident, $18.92.

TABLE OF NON-COMPENSABLE ACCIDENTS IN THE ANTHRACITE COAL INDUSTRY IN PENNSYLVANIA, DURING THE YEAR 1916, SHOWING CAUSES, NATURE OF INJURIES, PART INJURED, AND SEX OF WORKERS DISABLED FOR FOURTEEN DAYS OR LESS—ALSO SHOWING TIME AND WAGE LOSS, COST OF MEDICAL SERVICES AND OTHER DATA.

CAUSE.	NATURE OF INJURY.								PART INJURED.									
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Puncture.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
MACHINERY.																	
Boilers, steam pipes, &c., (Inc. Ex.),	3									2		1					
Prime movers (engines and motors),	1		1	1					1	1			1				
Transmission apparatus,	1	20	17	5				2	8	3	1	1	5	14	5	6	2
Working machines,	1	16	15	4		1			3	4		2	3	17		7	1
Adjusting machine or work,	1	9	9			1		1	2	3			3	12	1		
Starting,		3	3							1		1	1	2			1
Operating and feeding,		11	25	3			1	1	1	3		4	10	21	1	1	
Stopping,		2												2			
Oiling,		6	5	1				2	1	2	1		2	7		1	
Cleaning,		4	7					1	1		1		1	9			
Repairing,		8	1	1				1	1		1	1	3	3	1	1	
Breaking of machine or work,	1	13	13	1				2	3	6	2	1	3	5	8	2	
Flying objects,	1	16	37	2		2	1	61	1	17	74	2	9	7	6	3	1
All others,		6	2						1					1	2	4	
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.																	
Corrosive substances,	13	2	2			2	1	10	1	2	15	2	3	3	1	3	
Electricity,	44	2	14					8	10	16	9	4	17	6	4	2	
Explosives,	73	34	50	2			6	8	19	75	9	15	30	3	20	2	
Hot substances and flames,	312	5	4			3	1	7	25	145	21	40	60	15	13	13	
Conflagration,	1									1							

TABLE OF NON-COMPENSABLE ACCIDENTS IN THE ANTHRACITE COAL INDUSTRY—Continued.

CAUSE.	NATURE OF INJURY.								PART INJURED.								
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Puncture.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
FALLING OBJECTS.																	
Rock and earth,	11	1,482	2,009	96	------	29	18	112	369	863	119	190	557	664	409	419	167
Collapse of buildings and walls,	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Collapse of scaffolds and stagings,	------	10	4	2	------	------	------	1	5	2	------	1	1	1	------	5	2
Collapse of piled up material,	2	8	5	1	------	------	------	1	1	1	------	------	4	5	3	2	1
Objects dropped by other persons,	------	25	23	------	------	------	------	1	1	9	2	2	3	15	4	10	3
Objects falling from trucks or vehicles,	------	25	15	1	------	------	------	------	3	6	------	2	4	8	5	9	4
Objects falling from buildings, etc.,	------	17	6	1	------	------	------	------	1	6	------	------	------	4	5	6	2
All others,	6	426	202	28	------	------	8	20	58	97	13	40	60	111	67	155	89
FALL OF PERSONS.																	
From ladder,	------	6	8	16	------	------	------	------	10	4	------	1	3	------	3	9	------
From scaffolds or platforms,	------	18	8	15	------	1	1	1	16	2	1	8	8	1	2	6	------
From vehicles,	------	19	5	7	------	------	------	3	11	3	------	6	2	1	7	2	2
From structures in course of erection,	1	1	------	2	------	------	------	------	3	1	------	------	------	------	------	------	------
From structures (all others),	------	3	------	------	------	------	------	------	1	1	------	------	------	------	1	------	------
From other elevations,	1	50	17	37	------	------	1	5	28	11	1	15	13	2	22	17	2
Into excavations,	------	6	3	1	------	------	------	------	2	2	------	2	------	------	3	1	------
Into other openings,	------	14	17	11	------	1	------	4	3	14	2	1	3	5	13	5	1
On level,	3	320	274	347	3	3	19	51	238	80	14	80	145	92	177	184	10
All others,	------	11	9	5	------	------	------	------	7	4	------	2	1	1	6	3	1
HANDLING OF TOOLS AND OBJECTS.																	
Tools in hands of injured person,	4	248	454	49	1	11	49	30	50	78	21	27	135	340	78	91	26
Tools in hands of fellow workman,	------	41	49	3	------	------	8	5	6	21	3	4	15	35	9	11	2
Handling sharp objects,	------	23	300	5	------	16	22	6	1	2	------	11	132	222	------	3	1
Loading and unloading,	3	184	231	39	------	4	5	19	54	42	8	20	69	192	26	48	26
Carrying and lifting objects, not loading or unloading,	1	224	293	472	6	5	8	77	488	16	2	47	118	268	42	62	43
All others,	4	708	829	112	2	23	30	65	97	38	9	58	294	1,097	64	69	47

POWER VEHICLES—ON TRACK.																	
Coupling or uncoupling cars,	------	243	79	16	------	1	1	7	24	9	1	37	31	131	83	26	5
Defective equipment,	------	2	2	------	------	------	------	------	------	2	------	1	------	1	------	------	------
Fell from, over or into,	1	88	26	33	------	------	1	6	46	24	1	8	10	3	45	17	1
Improperly loaded ladles or cars,	------	2	------	------	------	------	------	------	------	------	------	1	------	------	------	1	------
Loading or unloading material,	------	137	183	40	1	7	4	14	54	27	11	21	55	145	21	38	14
Struck by car or engine,	1	284	59	25	------	1	1	8	63	21	1	15	16	49	131	69	14
Struck by overhead or side obstruction,	1	86	36	12	------	------	------	5	34	29	2	17	14	19	17	8	------
Unlocked frogs or guard rails,	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Collisions,	2	52	11	5	------	------	------	------	12	3	1	5	4	6	26	13	------
Derailment and replacing cars,	2	195	61	61	1	1	------	9	92	24	------	10	23	49	55	63	14
Not on track,	1	1	------	------	------	------	------	------	------	1	------	------	------	------	1	------	------
On water,	------	1	------	------	------	------	------	------	------	------	------	------	------	1	------	------	------
STEPPING ON SHARP OBJECTS.																	
Nails,	------	10	44	1	------	2	308	12	------	------	------	------	3	------	9	357	8
All others,	------	2	6	17	------	------	10	1	1	------	------	------	------	------	3	32	------
Running into or striking against objects,	10	285	489	46	------	25	45	30	46	135	21	74	241	247	113	43	10
Poisonous substances,	------	4	10	------	------	14	2	6	1	------	------	------	13	17	2	3	------
MISCELLANEOUS.																	
Flying objects—Not from machines, etc.,	17	335	556	15	1	4	21	444	56	245	751	35	84	106	70	41	5
Animals,	1	323	147	21	2	------	7	30	109	96	12	42	33	53	132	41	13
Doors, windows, gates (not elevator),	------	53	41	4	------	------	------	2	15	10	------	5	13	48	3	5	1
Asphyxiation and suffocation,	------	1	4	------	------	------	------	23	21	7	------	------	------	------	------	------	------
Lightning,	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Heat prostrations,	------	------	1	------	------	------	------	4	4	1	------	------	------	------	------	------	------
Frost bites,	------	1	------	1	------	------	------	3	1	------	------	------	1	3	------	------	------
Drowning,	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Intentional violence,	------	12	15	1	------	------	------	2	4	16	3	2	1	2	2	------	------
All others,	------	43	41	29	------	2	3	26	25	12	5	5	18	28	32	15	4
TOTALS,	524	6,186	6,777	1,597	17	159	582	1,137	2,139	2,246	1,138	869	2,278	4,099	1,753	1,934	523

TABLE OF NON-COMPENSABLE ACCIDENTS IN THE ANTHRACITE COAL INDUSTRY—Continued.

CAUSE.	LOSS OF PARTS.							SEX.		TIME AND WAGE LOST.				Number of dependents.	Total number of accidents.	Estimated medical cost.
	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Male.	Female.	Days lost.	Wages lost.	Average days lost per accident.	Average wage loss per accident.			
MACHINERY.																
Boilers, steam pipes, &c., (Inc. Ex.),	----	----	----	----	----	----	----	3	--------	16	$39	5	$13	8	3	$17
Prime movers (engines and motors),	----	----	----	----	----	----	----	3	--------	8	46	3	15	1	3	17
Transmission apparatus,	----	----	----	----	----	----	----	45	--------	305	669	7	15	22	45	248
Working machines,	----	----	----	----	----	----	----	37	--------	236	461	6	12	17	37	204
Adjusting machine or work,	----	----	----	----	----	----	----	21	--------	123	336	6	16	19	21	116
Starting,	----	----	----	----	----	----	----	6	--------	40	94	7	16	7	6	33
Operating and feeding,	----	----	----	1	----	----	----	41	--------	185	450	5	11	30	41	226
Stopping,	----	----	----	----	----	----	----	2	--------	4	10	2	5	--------	2	11
Oiling,	----	----	----	----	----	----	----	14	--------	85	165	6	12	1	14	77
Cleaning,	----	----	----	1	----	----	----	12	--------	55	148	5	12	11	12	63
Repairing,	----	----	----	----	----	----	----	11	--------	66	143	6	13	4	11	61
Breaking of machine or work,	----	----	----	----	----	----	----	30	--------	123	359	4	12	15	30	163
Flying objects,	----	----	----	----	----	----	----	120	--------	646	1,638	5	14	74	120	632
All others,	----	----	----	----	----	----	----	8	--------	52	119	6	15	13	8	44
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.																
Corrosive substances,	----	----	----	----	----	----	----	30	--------	169	383	6	13	23	30	163
Electricity,	----	----	----	----	----	----	----	68	--------	372	866	5	14	19	68	375
Explosives,	----	----	----	----	----	----	----	173	--------	1,098	2,688	6	16	162	173	955
Hot substances and flames,	----	----	----	----	----	----	----	332	--------	2,075	4,739	6	14	178	332	1,832
Conflagration,	----	----	----	----	----	----	----	1	--------	6	8	6	8	--------	1	6
FALLING OBJECTS.																
Rock and earth,	----	----	----	----	----	----	----	3,757	--------	22,032	56,924	6	15	3,195	3,757	20,739
Collapse of buildings and walls,	----	----	----	----	----	----	----									

FALLING OBJECTS—Continued.																
Collapse of scaffolds and stagings,								17		133	310	8	18	4	17	94
Collapse of piled up material,								17		99	195	6	11	19	17	94
Objects dropped by other persons,								49		288	551	6	11	26	49	270
Objects falling from trucks or vehicles,								41		226	466	6	11	25	41	226
Objects falling from buildings, etc.,								24		174	371	7	11	21	24	132
All others,								690		3,805	8,703	6	13	402	690	3,809
FALL OF PERSONS.																
From ladder,								30		191	349	6	11	1	30	166
From scaffolds or platforms,								44		299	655	7	15	21	44	243
From vehicles,								84		209	412	6	12	3	34	188
From structures in course of erection,								4		21	63	5	16	1	4	22
From structures (all others),								3		20	44	7	15		3	17
From other elevations,								111		640	1,551	6	14	58	111	613
Into excavations,								10		57	145	6	14	9	10	55
Into other openings,								47		300	611	6	13	37	47	259
On level,								1,020		5,960	13,893	6	14	550	1,020	5,630
All others,								25		197	340	8	14	16	25	138
HANDLING OF TOOLS AND OBJECTS.																
Tools in hands of injured person,				1				846		4,919	11,861	6	14	581	846	4,670
Tools in hands of fellow workman,								106		602	1,414	6	13	65	106	585
Handling sharp objects,								372		1,680	4,099	4	11	191	372	2,053
Loading and unloading,								485		2,757	6,403	6	13	300	485	2,677
Carrying and lifting objects, not loading or unloading,				2				1,086		6,324	15,201	6	14	776	1,086	5,995
All others,				5				1,772	1	9,938	21,424	6	12	925	1,773	9,787
POWER VEHICLES—ON TRACK.																
Coupling or uncoupling cars,								347		2,142	4,235	6	12	80	347	1,915
Defective equipment,								4		29	60	7	15	2	4	22
Fell from, over or into,								155		905	1,851	6	12	39	155	857
Improperly loaded ladles or cars,								2		12	50	6	25		2	11
Loading or unloading material,								386		2,434	5,415	6	14	305	386	2,131
Struck by car or engine,								379		2,477	4,974	7	13	99	379	2,092
Struck by overhead or side obstruction,				1				140		846	1,871	6	13	74	140	773
Unlocked frogs or guard rails,																
Collisions,								70		467	997	7	14	35	70	386
Derailment and replacing cars,				1				330		2,157	4,398	7	13	134	330	1,822
Not on track,								2		18	27	9	13	3	2	11
On water,								1		2	10	2	10		1	6

TABLE OF NON-COMPENSABLE ACCIDENTS IN THE ANTHRACITE COAL INDUSTRY—Continued.

CAUSE.	LOSS OF PARTS.							SEX.		TIME AND WAGE LOST.				Number of dependents.	Total number of accidents.	Estimated medical cost.
	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Male.	Female.	Days lost.	Wages lost.	Average days lost per accident.	Average wage loss per accident.			
STEPPING ON SHARP OBJECTS.																
Nails,	----	----	----	----	----	----	----	377	----------	2,099	5,032	7	13	188	377	2,081
All others,	----	----	----	----	----	----	----	36	----------	216	522	6	14	5	36	199
Running into or striking against objects,	----	----	----	----	----	----	----	930	----------	4,765	11,276	5	12	612	930	5,134
Poisonous substances,	----	----	----	----	----	----	----	36	----------	237	572	7	16	18	36	199
MISCELLANEOUS.																
Flying objects—Not from machines, etc.,	----	----	----	----	----	----	----	1,393	----------	6,562	17,217	5	12	971	1,393	7,689
Animals,	----	----	----	----	----	----	----	531	----------	2,980	5,980	5	11	128	531	2,931
Doors, windows, gates (not elevator),	----	----	----	1	----	----	----	100	----------	585	1,245	5	12	53	100	552
Asphyxiation and suffocation,	----	----	----	----	----	----	----	28	----------	110	341	4	12	19	28	155
Lightning,	----	----	----	----	----	----	----	----------	----------	----------	----------	----------	----------	----------	----------	----------
Heat prostrations,	----	----	----	----	----	----	----	5	----------	32	65	6	13	6	5	28
Frost bites,	----	----	----	----	----	----	----	5	----------	42	53	8	10	----------	5	28
Drowning,	----	----	----	----	----	----	----	----------	----------	----------	----------	----------	----------	----------	----------	----------
Intentional violence,	----	----	----	----	----	----	----	30	----------	158	299	5	10	4	30	166
All others,	----	----	----	----	----	----	----	144	----------	901	1,793	6	12	105	144	795
TOTALS,	----	----	----	13	----	----	----	16,978	1	96,711	$227,629	5	$13	10,710	16,979	$93,727

Average medical cost per accident, $5.52.

TABLE OF NON-COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY IN PENNSYLVANIA, DURING THE YEAR 1916, SHOWING CAUSES, NATURE OF INJURIES, PART INJURED, AND SEX OF WORKERS DISABLED FOR FOURTEEN DAYS OR LESS—ALSO SHOWING TIME AND WAGE LOSS, COST OF MEDICAL SERVICES AND OTHER DATA.

CAUSE.	NATURE OF INJURY.								PART INJURED.								
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Puncture.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Legs.	Fingers.	Feet.	Toes.
MACHINERY.																	
Boilers, steam pipes, &c., (Inc. Ex.),	4							1		2	1	1			1		
Prime movers (engines and motors),		2	1	1					1					2	1		
Transmission apparatus,		46	15	7				2	11	3		1	7	11	6	20	12
Working machines,		50	18	4				5	4	3		2	9	25	12	19	8
Adjusting machine or work,		12	15	6				2	1		1		7	18	3	2	2
Starting,		6	1	2			1					1	2	3	3		1
Operating and feeding,		52	26	9			2	3	6	3	1	9	13	35	11	8	6
Stopping,																	
Oiling,	1	3	3							1		1		4	1		
Cleaning,	2	1	2	1			1						1	3	1	1	1
Repairing,	3	5	3					1	1	3	1		3	4			
Breaking of machine or work,		17	13	3		1		4	7	9	2	2	2	5	8	3	
Flying objects,	2	21	19				3	73	4	7	89	2	2	4	8	1	1
All others,	1	11	4	1					1				2	6	2	4	2
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.																	
Corrosive substances,	6	1	1			1		12		1	16	1	1	1		1	
Electricity,	106	9	8	3			3	16	18	20	28	10	39	22	8		
Explosives,	27	10	24				2	7	8	28	7	4	13	4	4	2	
Hot substances and flames,	178	2	2			3		8	11	61	21	21	45	13	7	13	1
Conflagration,								1			1						

TABLE OF NON-COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY—Continued.

CAUSE.	NATURE OF INJURY.								PART INJURED.								
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Puncture.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
FALLING OBJECTS.																	
Rock and earth,	21	2,384	1,581	208	2	28	50	265	502	875	251	221	417	600	580	751	342
Collapse of buildings and walls,	1	1	1							2		1					
Collapse of scaffolds and stagings,		10	3	1			1	1	3	5		1			4	3	
Collapse of piled up material,		8	4	1					1				2	6	2		2
Objects dropped by other persons,		23	14	1				1	3	9		1	3	9		11	3
Objects falling from trucks or vehicles,		27	10					3	5	4	1	1	3	7	5	11	3
Objects falling from buildings, etc.,		16	5	2		1		1	2	3			1	4	2	9	4
All others,	1	507	213	39		2	14	32	63	103	12	39	46	136	78	180	148
FALL OF PERSONS.																	
From ladder,		9	2	6				2	8	1	1	3	2		2	2	
From scaffolds or platforms,		8	2	4	1		1		5	4					3	4	
From vehicles,		35	3	13	1			1	18	5	1	3	2	2	9	11	2
From structures in course of erection,		2		1					2								1
From structures (all others),			1	2					2					1			
From other elevations,		15	6	14				1	14	2		4	2		9	5	
Into excavations,		4		3					1			1			2	3	
Into other openings,	1	10	4	12				3	8	2	1	1	2		9	5	2
On level,	7	272	117	332	3	3	17	40	210	52	5	55	78	49	163	164	15
All others,		8	2	5				1	5	2		2			2	5	
HANDLING OF TOOLS AND OBJECTS.																	
Tools in hands of injured person,	3	328	517	50		10	277	63	58	80	32	31	194	372	152	279	50
Tools in hands of fellow workman,		40	63	5			49	5	7	18	4	28	45	35	11	11	3
Handling sharp objects,		12	130			10	25	15		1		7	61	118	3	1	1
Loading and unloading,	2	206	111	42		2	1	20	39	24	6	9	35	142	34	61	34
Carrying and lifting objects, not loading or unloading,		260	138	581	19	4	13	65	601	15	7	37	73	196	36	80	35
All others,	5	848	513	188	4	13	22	55	121	39	12	57	241	856	109	142	71

POWER VEHICLES—ON TRACK.																	
Coupling or uncoupling cars,	2	201	76	13				7	16	14	1	16	37	158	26	27	4
Defective equipment,		1	1	1					1		1		1				
Fell from, over or into,	4	90	33	29				6	45	22	3	9	12	2	36	31	2
Improperly loaded ladles or cars,																	
Loading or unloading material,		165	80	34	1	3	3	8	29	24	6	12	22	98	27	44	32
Struck by car or engine,	2	455	66	57		1	4	23	97	16		22	24	61	120	195	73
Struck by overhead or side obstruction,	4	176	90	36		1	3	5	81	55	2	38	35	59	36	9	
Unlocked frogs or guard rails,			1						1								
Collisions,	1	114	19	10			1	3	27	5	4	9	1	11	38	49	4
Derailment and replacing cars,	2	345	141	155	6		6	25	183	40	8	37	51	154	75	96	36
Not on track,				1												1	
On water,																	
STEPPING ON SHARP OBJECTS.																	
Nails,		7	13			2	193	4	1		1		1		3	210	3
All others,		6	2	19			7	3	1						2	31	3
Running into or striking against objects,	4	271	264	65	1	17	22	44	73	154	17	55	125	104	102	53	5
Poisonous substances,			3		1	13	1	3	1	1	1	2	8	7		1	
MISCELLANEOUS.																	
Flying objects—Not from machines, etc.,	18	244	322	15	2	6	20	695	46	146	956	31	33	35	50	22	3
Animals,	2	234	92	37			13	15	81	68	6	22	22	31	90	55	18
Doors, windows, gates (not elevator),	2	46	22	7				6	9	3		4	13	37	5	10	2
Asphyxiation and suffocation,								5	2	3							
Lightning,																	
Heat prostrations,			1					9	9	1							
Frost bites,																	
Drowning,																	
Intentional violence,			7				1	3	1	5	3					2	
All others,	1	61	18	15		1	4	17	19	4	4	5	10	28	23	18	6
TOTALS,	413	7,697	4,846	2,041	41	122	760	1,590	2,477	1,948	1,514	819	1,748	3,478	1,924	2,636	936

TABLE OF NON-COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY—Continued.

CAUSE.	LOSS OF PARTS.							SEX.		TIME AND WAGE LOST.				Number of dependents.	Total number of accidents.	Estimated medical cost.
	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Male.	Female.	Days lost.	Wages lost.	Average days lost per accident.	Average wage loss per accident.			
MACHINERY.																
Boilers, steam pipes, &c., (Inc. Ex.),								5		34	$96	7	$19	2	5	$25
Prime movers (engines and motors),								4		8	49	2	5	10	4	20
Transmission apparatus,								70		432	1,174	6	17	50	70	352
Working machines,								77		453	1,486	7	19	56	77	387
Adjusting machine or work,								35		242	670	7	19	42	35	176
Starting,								10		35	112	4	11	16	10	50
Operating and feeding,								92		567	1,688	6	18	71	92	463
Stopping,																
Oiling,								7		32	91	5	13	5	7	35
Cleaning,								7		46	99	7	14	5	7	35
Repairing,								12		94	302	8	25	7	12	60
Breaking of machine or work,								38		224	639	6	17	35	38	191
Flying objects,								118		736	2,113	6	18	114	118	594
All others,								17		107	278	6	16	25	17	86
EXPLOSIVES, ELECTRICITY, FIRES, HOT AND CORROSIVE SUBSTANCES.																
Corrosive substances,								21		120	323	6	15	10	21	106
Electricity,								145		793	2,337	5	16	93	145	729
Explosives,								70		496	1,211	7	17	81	70	352
Hot substances and flames,								193		1,174	3,156	6	16	130	193	971
Conflagration,								1		6	9	6	9		1	5
FALLING OBJECTS.																
Rock and earth,								4,539		28,579	79,137	6	17	4,352	4,539	22,821
Collapse of buildings and walls,								3		6	31	2	10		3	15
Collapse of scaffolds and stagings,								16		105	276	7	17	25	16	80

FALLING OBJECTS—Continude.															
Collapse of piled up material,								13		77	218	5	14	11	13	65
Objects dropped by other persons,								39		218	560	6	14	24	39	196
Objects falling from trucks or vehicles,								40		238	654	6	16	47	40	201
Objects falling from buildings, etc.,								25		159	480	6	19	19	25	126
All others,								808		4,649	13,232	6	16	814	808	4,064
FALL OF PERSONS.															
From ladder,								19		112	247	6	13	22	19	96
From scaffolds or platforms,								16		134	346	8	22	14	16	80
From vehicles,								53		366	850	7	16	60	53	267
From structures in course of erection,								3		29	82	10	27	5	3	15
From structures (all others),								3		14	44	5	15	5	3	15
From other elevations,								36		236	533	7	15	35	36	181
Into excavations,								7		50	133	7	19	15	7	35
Into other openings,								30		181	395	6	13	24	30	151
On level,								790	1	5,038	13,145	6	17	736	791	3,979
All others,								16		88	286	5	18	9	16	80
HANDLING OF TOOLS AND OBJECTS.															
Tools in hands of injured person,								1,248		7,853	21,370	6	17	1,133	1,248	6,277
Tools in hands of fellow workman,								162		1,002	2,609	6	16	151	162	815
Handling sharp objects,								192		898	2,631	5	14	231	192	966
Loading and unloading,								384		2,165	5,865	6	15	504	384	1,932
Carrying and lifting objects, not loading or unloading,								1,080		10,148	27,071	9	25	1,103	1,080	5,432
All others,				2				1,648		10,333	27,445	6	17	1,332	1,648	8,289
POWER VEHICLES—ON TRACK.															
Coupling or uncoupling cars,								299		1,969	4,807	7	16	159	299	1,504
Defective equipment,								3		27	69	9	23		3	15
Fell from, over or into,								162		944	2,533	6	16	115	162	815
Improperly loaded ladles or cars,																
Loading or unloading material,								294		1,936	4,738	7	16	280	294	1,479
Struck by car or engine,								608		4,273	10,454	7	17	324	608	3,058
Struck by overhead or side obstruction,								315		1,996	5,183	6	16	198	315	1,584
Unlocked frogs or guard rails,								1		4	16	4	16		1	5
Collisions,								148		1,046	2,376	7	16	82	148	744
Derailment and replacing cars,				2				680		4,654	11,862	7	17	499	680	3,420
Not on track,								1		14	11	14	11		1	5
On water,																

TABLE OF NON-COMPENSABLE ACCIDENTS IN THE BITUMINOUS COAL INDUSTRY—Continued.

CAUSE.	LOSS OF PARTS.							SEX.		TIME AND WAGE LOST.				Number of dependents.	Total number of accidents.	Estimated medical cost.
	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Male.	Female.	Days lost.	Wages lost.	Average days lost per accident.	Average wage loss per accident.			
STEPPING ON SHARP OBJECTS.																
Nails,	----	----	----	----	----	----	----	219	----	1,196	3,423	5	15	174	219	1,102
All others,	----	----	----	----	----	----	----	37	----	205	598	5	16	17	37	186
Running into or striking against objects,	----	----	----	----	----	----	----	688	----	3,840	10,589	6	15	555	688	3,461
Poisonous substances,	----	----	----	----	----	----	----	21	----	153	372	7	18	15	21	106
MISCELLANEOUS.																
Flying objects—Not from machines, etc.,	----	----	----	----	----	----	----	1,322	----	6,548	20,229	5	15	1,311	1,322	6,650
Animals,	----	----	----	----	----	----	----	393	----	2,329	6,171	6	16	267	393	1,977
Doors, windows, gates (not elevator),	----	----	----	----	----	----	----	83	----	496	1,145	6	14	58	83	417
Asphyxiation and suffocation,	----	----	----	----	----	----	----	5	----	14	66	3	13	----	5	25
Lightning,	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Heat prostrations,	----	----	----	----	----	----	----	10	----	53	124	5	12	11	10	50
Frost bites,	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Drowning,	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Intentional violence,	----	----	----	----	----	----	----	11	----	54	164	5	15	3	11	55
All others,	----	----	----	----	----	----	----	117	----	682	1,548	6	13	78	117	589
TOTALS,	----	----	----	4	----	----	----	17,509	1	110,710	$299,951	6	$17	15,569	17,510	$88,072

Average medical cost per accident, $5.03.

THE BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

MAJOR JOHN PRICE JACKSON, Commissioner.
On Leave of Absence—War Service.
LEW R. PALMER, Acting Commissioner.

A BULLETIN OF INFORMATION FOR THE PUBLIC

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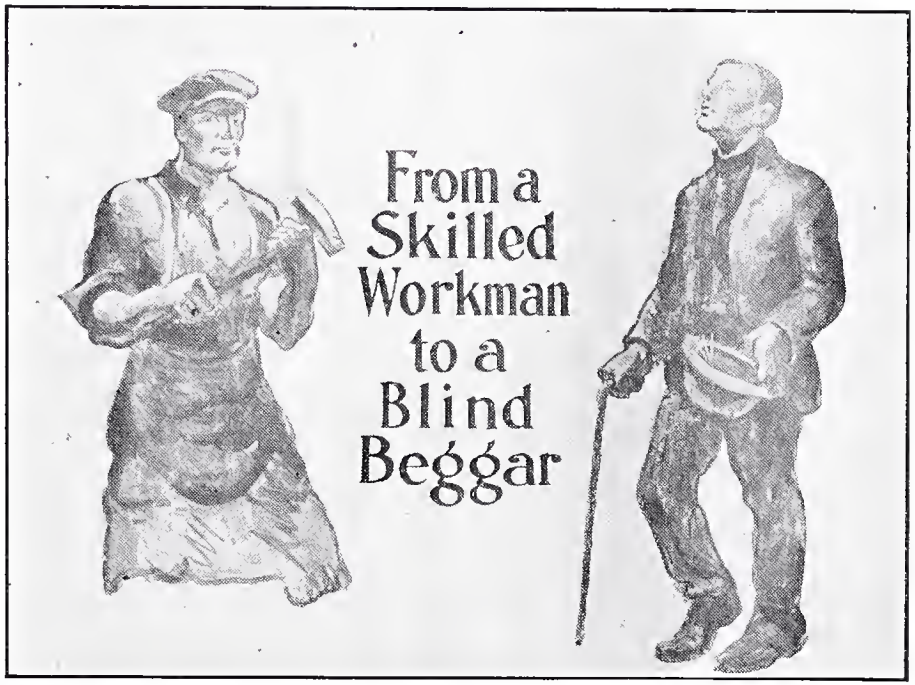

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PROCEEDINGS OF THE

Fifth Annual Industrial Welfare and Efficiency Conference
Hall of the House of Representatives
Harrisburg, Pa.

November 21 and 22, 1917.

Held under the direction of the
Pennsylvania Department of Labor and Industry
with the co-operation of the
Engineers' Society of Pennsylvania.

CHAIRMAN, LEW R. PALMER, Acting Commissioner of Labor and Industry.

OPENING ADDRESS.

By Lew R. Palmer, Acting Commissioner of Labor and Industry, Harrisburg, Pa.

The Fifth Annual Industrial Welfare and Efficiency Conference is now convened.

I am sure I regret with you the fact that Commissioner Jackson is not here to take his place on this program. The chairman will not take up any great amount of your time with extended remarks. We, of the Pennsylvania Department of Labor and Industry, are indeed glad to have you with us and we hope that you will enjoy this conference as we know you have enjoyed others in the past.

Commissioner, now Major Jackson, of the Engineers' Section of the United States Army, wired to us from some Atlantic Seaport the request that the presiding officer this morning extend to you his very best wishes and say to you that he would continue to represent you of Pennsylvania "Somewhere in France," as it has heretofore been his pleasure to represent you in this grand old Keystone State. (Applause.)

Our Governor will arrive later to address the meeting before it closes this morning.

We are fortunate to have with us a man of national and international reputation who has kindly agreed to speak to us on war conditions—Mr. A. B. Farquhar, of York, Pa.

ADDRESS ON WAR CONDITIONS.

By A. B. FARQUHAR, president, A. B. Farquhar Co., Limited, York, Pa.

I have had just two minutes notice that I was expected to address you this morning. Being in my eightieth year, I have the advantage of many of you here. A man's circle enlarges with gathering years, and his acquaintance is correspondingly wide. I have been active all my life, have worked on an average of fourteen or fifteen hours a day for the last seventy years, and therefore I have lived about two ordinary lives within that time.

A year ago I was in France. I mentioned that at a meeting here in this hall that Commissioner Jackson presided over. At that time I had a day or two's notice, and was prepared with an address.

It would seem from the introduction that I am expected to say something of war conditions. Now this country does not yet fully realize that it is at war. If the war continues another year, as in all probability it will, and possibly longer, you will all find that we are at war; we will feel it in every direction. It is my opinion that every able bodied man and woman in this entire country should be "conscripted." I don't exactly like that term. I like "selected" better. Our soldiers, by the way, are not conscripts but selected men. They ought to be called selected men; should not be spoken of as conscripts. My friends, the Secretary of War and the Secretary of the Treasury, fully agreed with me when we had a talk about it the other day. "Selected men" is the better term to use.

We all should be willing to do our part. Every one should live, move and have his being in the winning of the war. The war was forced upon us. We could not possibly avoid it. Anyone who has given careful study to the matter will see that. I have been a strong peace man all my life; was at the Hague, at the Arbitration Conference in England, where I became acquainted with Mr. Lloyd George; was also a regular attendant at the Lake Mohonk Conferences. But as a strong peace man I am ready to fight for peace, and we cannot obtain permanent peace except by putting down Prussian Militarism, and we must carry the war to a successful conclusion if we are ever to have lasting peace. Practically, in a sense, this is a Holy War, a war in which we should all take our part and do our best to carry it to a successful end. There is no question about that in my mind.

I want to speak a word as to the war as I saw it in France a year ago. I was in the trenches for about five days under fire. We were entertained specially by the French Government. I was on the Commission invited by the Government to study industrial conditions, which is a very serious matter in France.

The French have gone into the war with a feeling of consecration, that they are going to give their lives for France. Most of those I talked with said they did not expect to come out of the war alive. "We may be buried on the battlefield; that is our expectation. We come to save our country." They have a strong feeling of patriotism, and seem to rejoice in the idea of sacrifice; and the women have the same feeling.

All through France we saw women doing farm work, and in the factories were girls and women making shells. In one great single room, we saw five thousand women making munitions, some of the best women of France among them, too, leaders of society, aristocratic women who could speak three or four languages, and who conversed with me in English with as much ease as would one from our own country. All class feeling seems to be broken down. In England I saw daughters of dukes and earls working in the factories. Their maids came with them, some of them looking disgusted at the work, while their mistresses seemed proud of it.

Now it is not generally known in this country how many people there are in Washington, the ablest men in the country, and some women, too, giving their entire time at a nominal salary of one dollar a year and paying their own expenses.

We must avoid unfair criticism. Our public officers are doing their duty. Our officials are always ready to receive good suggestions. Constructive work alone is beneficial. During the war we should work as though we wanted to help the Government, we should want to help, and be glad to give half of our income to the Government, run it on a fifty-fifty basis. I am sure I am, and there are others who are

willing to let the Government have all if necessary. We should live, move and have our being in winning the war. We will never have permanent peace in the world until we gain victory. With victory we will gain great good. I think it probable that the evil of alcoholic drinks, which all must admit is a curse, will be at an end. There will be less drinking in the world than there is today, and if a permanent peace is established by a league of nations, the whole human race will be better off in many ways.

We all know that if the advice and teachings of the Great Master of Galilee, given 1900 years ago, were carried out there would be no war and no occasion for war; and I think there will be a stronger tendency to live practical Christian lives after this war is over than ever before. I think the world will become more Christianized and better. The war itself has brought out many noble qualities in men, self-sacrificing qualities, breaking down, as I said before, class prejudice, and a great deal of good is bound to come out of it. We must not despair; win it we certainly will; there is no question about it. It will have to go on till we do win—it is only a question of how long it will last. The brothers of the fellow workmen in our laboring class —and we ought all to be laborers while the war lasts, no feeling between capitalist and labor, all working, all doing our part—their brother workmen who were selected to fight in France, who are risking their lives, are vitally interested in a sufficiency of ships. They are interested, of course, in receiving the necessary food and ammunition and the workmen here should provide them, since they are getting high wages and have comfortable surroundings, and there certainly should be no thought of strikes. There is no occasion for them. The capitalist and employer must be willing to do his part today, and the laborer must be willing to do his part; do as you would be done by; follow that rule and there never will be a strike. As soon as the world follows the Golden Rule most of our troubles will be over. And we must have the same feeling about labor. It is absurd for capital and labor to quarrel. The labor is the hands, capital may be said to be the brains, each absolutely necessary to the other. Capital could accomplish nothing without the labor, and labor could accomplish nothing without capital. They are absolutely dependent on each other, inter-dependent, and to quarrel is foolish. While the war lasts strikes should be made absolutely impossible.

I have made only a few remarks, given expression to a few thoughts as they came into my mind, without any preparation at all, simply a heart to heart talk. I love all Americans. Another thing; how utterly absurd it is to talk about German-Americans. There is no German-American. You are either American or not American. My ancestors happend to be Scotch. Don't call me a Scotch-American. It is a reflection upon me. The vast majority of our German immigrants

are good citizens, and let us look at them as such. Do not judge any of them until you know of some overt act they have committed. Because they happen to have a German name, that does not affect their patriotism at all. We are all either of foreign origin, or born of American Indians, and let us do away with prejudice, do away with passion and keep our heads, and all work together for the great end of winning the war.

CHAIRMAN PALMER: We are certainly most fortunate to have Mr. Farquhar with us. The Pennsylvania Department of Labor and Industry is co-operating in every way possible to win the war. We have, through Commissioner Jackson's direction, allied our work in various divisions with the State Safety Committee, which is the same organization as that known in other states as the State Council of Defense. We have as the next number of the program a paper by Mr. Edgar C. Felton, Director, Department of Civilian Service and Labor, Committee of Public Safety for the Commonwealth of Pennsylvania, Philadelphia, Pa., and I think he will show us some ways in which not only the Department of Labor and Industry can co-operate with the Safety Committee, but in which you men out in the industries can assist in promoting what is coming to be a national war program.

I therefore take great pleasure in introducing Mr. Felton to you.

AN OUTLINE OF THE RELATIONSHIP OF THE STATE COMMITTEE OF PUBLIC SAFETY TO LABOR AND TO INDUSTRY IN TIME OF WAR.

By EDGAR C. FELTON, Director, Department of Civilian Service and Labor, Committee of Public Safety for the Commonwealth of Pennsylvania, Philadelphia, Pa.

When the Committee of Public Safety for the Commonwealth of Pennsylvania was appointed by the Governor of the Commonwealth at the time of the entry of the United States into the world war, the duty of developing and organizing the various activities, having to do with the war emergency was wisely placed in charge of the Chairman of the General Committee, Mr. George Wharton Pepper, and a comparatively small executive committee. The efficiency of management which goes with small and compact bodies was thus obtained. This executive committee promptly created fifteen departments whose work was intended to cover all the special matters arising out of the war and affecting the Commonwealth and its citizens. In order that you may be informed as to the scope of the work which is being performed by the Committee of Public Safety, I will enumerate these

departments. In general their titles describe quite clearly the fields they are intended to cover. The fifteen departments are:

1. Department of Finance.

2. Department of Publicity, which was organized for the purpose of keeping the public informed as to the work of the other departments, and of keeping in touch with all matters of interest arising out of the state of war.

3. Department of Legislature. The legislature has not been in session since this department was organized and hence there has not been very much for it to do.

4. Department of Allied Bodies, whose duty it is to bring into co-operation with the various departments of the Committee of Public Safety those bodies or committees which were in operation prior to the creation of the Committee of Public Safety and which were working along similar lines and to co-ordinate their work with the similar work being undertaken by the departments of the Committee of Public Safety.

5. Department of Sanitation, Medicine, and Red Cross.

6. Department of Civic Relief, whose function it is to organize and furnish aid and relief to the civil population in the emergencies arising out of war conditions. This department also looks after all matters pertaining to social welfare.

7. Department of Food Supply, which has to do with the conservation of existing supplies of food, the stimulation of the production of food, and its economic distribution.

8. Department of Materials.

9. Department of Plants. These two departments are concerned with the industrial and mining plants of the state and with the materials produced by them, in so far as they are affected by or can be made use of in war.

10. Department of Motors and Motor Trucks.

11. Department of Civilian Service and Labor, which looks after all labor problems arising out of the war. That is the particular department in which I am interested and whose work I am going to elaborate later on.

12. Department of Military Service.

13. Department of Naval Service.

14. Department of Guards, Police, and Inspection.

15. Department of Railroads, Electric Railways and Motors, Highways and Waterways.

With the enumeration and brief description of the activities which the Committee of Public Safety has undertaken to manage through its several departments during the existing war emergency, we can now proceed more understandingly to a discussion of the particular

subject of this paper, namely, The Relationship of the Committee of Public Safety to Labor and to Industry in Time of War. I believe that this relationship can best be made plain by giving you a general outline of the duties devolving on the Department of Civilian Service and Labor to which the Committee of Public Safety has assigned the task of caring for all problems arising in connection with Labor and Industry, and then describing the machinery which that Department has created for the purpose of performing those duties.

In order that the work of the Department might be clearly defined, it was determined at the outset that it should concern itself with labor from the point where the individual presents himself for employment up to the point where he enters employment; that it should have nothing to do with labor before it seeks employment except in certain obvious cases, such as, for example, where trade or technical training is necessary to fit the individual for the kind of service he intends to undertake. Here the Department organizes or provides means for such training. The instruction, however, is specific and directed to some particular object and is never of a general character. It leads straight to some well-defined employment. It fits a woman, for example, to enter one of the textile trades, or a man or boy to engage in one of the lines of work involved in the building of steamships. It in no respect resembles the instruction given in the ordinary courses of manual training.

The Department, on the other hand, does not concern itself with the individual after he has accepted employment except in other obvious cases like those where, because of the youth or other circumstances surrounding the individual, the conditions under which his work is performed must be inspected and made suitable, or where, as in the case of disputes between the employer and the employed, the services of the Department are requested for purposes of conciliation or arbitration. The work then of the Department of Civilian Service and Labor consists primarily in acting as intermediary between the employe and the employer; in finding the individual who is looking for employment and the employer who is in need of workers and then in bringing the two together. Of course, there are many details involved in this work, and many new and unexpected lines of activity are opening up as the work of the Department develops, but in order that you may understand the machinery which the Department has put into operation for the purpose of carrying out its work, this very simple statement of the Department's functions should be kept clearly in mind. That is, we find the man who wants work and get him in touch with the employer and place him. That is a simple outline of the work which we are attempting to perform.

Before proceeding with its organization, the Department examined the field carefully for the purpose of discovering whether any existing departments of the State Government could be utilized or could be co-operated with in carrying on its work. The Department of Labor and Industry of the State was asked to come into consultation, and the invitation was accepted with the utmost good will and earnestness by Commissioner John Price Jackson, whose recent call into the military service of the nation has deprived us of the pleasure and honor of having him act as Chairman of our today's meeting. Major Jackson, with a broadmindedness and spirit of helpfulness, which was beyond praise, gave the Department the benefit of his intimate and valuable knowledge of labor conditions in Pennsylvania, and at the same time instructed his assistants to co-operate with, and place themselves at the disposal of the Department of Civilian Service and Labor in every way in which they could be of service. The State Department of Agriculture was also appealed to, and their assistance was cheerfully and gladly given. After these very necessary preliminaries, the work of perfecting the organization to handle the labor problems of the State was taken up.

The following outline will, I hope, give a clear understanding of the machinery planned and developed. It is based upon and consists largely in a development and elaboration of the plans which Major Jackson had already formulated and had partly worked out for handling the same problems under the conditions ordinarily surrounding the industries of Pennsylvania in times of peace.

The entire State has been divided into six zones or districts, in each of which a central office is located. These central offices have been opened in Harrisburg, Philadelphia, Pittsburgh, Scranton, Williamsport, and Erie, and in each a zone superintendent has been placed, whose duty it is to organize and supervise the work of the various local employment offices within his zone. Besides doing this, he acts as the head of the local employment offices for the district immediately surrounding and tributary to his zone office. Local employment offices are now being organized in all the important industrial centres in each zone, and these will be increased from time to time as need develops until a local employment office is in operation in at least each county of the State. They will be placed wherever found necessary. The zone office, located at Harrisburg, besides superintending the work of the local employment offices in the Harrisburg zone, is also the central office to which the other five zone offices of the State report.

The unit of the system is the local employment office which reports and is responsible to its zone office. The zone office in turn reports and is responsible to the central office at Harrisburg.

The labor of the State naturally divides itself into two classes: the labor employed in agriculture on the one hand, and on the other, that employed in mining, industrial, and commercial enterprises. The distinction between these two classes of labor is obvious. Agricultural labor is employed in small scattered units in rural communities and is largely unskilled; the other class is employed in larger and more compact bodies in districts of denser population and is largely skilled or semi-skilled. It is clear that a different kind of machinery is required to handle the problems of the farmer and his labor than is needed to handle the problems of industrial labor. Fortunately, a very efficient force of men was found already in existence who were peculiarly well qualified to bring the local employment offices in touch with the farmer. These were the county farm agents who are joint employes of the State and National Departments of Agriculture, and generally graduates of agricultural colleges. Their duties require them to be almost continually circulating among the farming population and they thus become familiar with the needs for labor in the agricultural districts under their charge. It will readily be understood what an ideal link these county farm agents form between the farming districts and the employment offices.

It is not a difficult matter for the local employment offices to obtain a knowledge of the needs for industrial, mining, and other labor in their districts. The employment offices are located in industrial centers and as their work develops and their usefulness is demonstrated they will become well and favorably known to the larger employers of labor. In order, however, to increase the usefulness of these local employment offices, and to get them in intimate contact with the employers of labor in their districts, each of the important industrial and mining establishments of the State has been asked by the Department of Civilian Service and Labor to appoint from among its own employes an individual to be known as its Works' Correspondent, who shall become the medium of communication between the particular establishment with which he is connected and the Department of Civilian Service and Labor in all matters pertaining to labor or its problems. In answer to that request I may say that up to date, we have listed and filed in our main office in Philadelphia some two thousand of these Works' Correspondents who have been appointed by the different establishments and to whom we address anything of interest to that particular plant, and they address us in regard to any matter which they want us to take up. The Department of Civilian Service and Labor in asking the industrial establishments to appoint these Works' Correspondents has requested that the appointee should be an individual having an intimate knowledge of the labor conditions of the establishment and should preferably be some one in the office of the superintendent or manager of the plant con-

cerned. You can see the advantage in having some one who is pretty near the top to keep in touch with these labor problems. By these two means, the county farm agents and the Works' Correspondents, the local employment offices are given direct and prompt information as to both the agricultural and industrial labor conditions in its district.

Contact with the knowledge of those seeking employment is obtained by advertisement, by posters and by making known the existence of the employment offices by every convenient and effective channel of publicity. The system which I have briefly described operates as follows:

The needs for agricultural or industrial labor are made known in the local employment office by the agencies already described; the local employment office then endeavors to supply these needs from its lists of persons seeking employment; if it is unable to satisfy these needs from its own local lists, it reports its shortage to the central office of the zone in which it is located. This zone office then examines the reports which it has received from the other local employment offices in its zone and endeavors to supply the shortage. Failing in this, the zone office reports to the central office for the entire State located at Harrisburg, to which each of the other five zone offices are continually reporting. Through this central office the entire State is put under requisition to supply the labor shortage which may exist in any particular locality within the State. One very important point which was kept in view continually in developing this system was to avoid any needless transfer of labor from one part of the State to another. That is uneconomical, wasteful and destroys the efficiency of labor, and we are trying in every possible way to fight that movement of labor or transfer of labor long distances and to make each district satisfy, as far as possible, its own demands for labor.

The foregoing gives in very brief outline the system and organization being developed under the direction of the Committee of Public Safety to meet the war conditions and to render the labor and industry of the State the utmost efficiency in the terrific struggle which is before us. As the development progresses many new and important problems arise. I can only in the time at my disposal mention a few. The high wages paid in industrial establishments is rapidly drawing labor away from the farms. How is this shortage to be made up, and the production of food not only maintained, but increased? The tremendous activity in shipbuilding affects Pennsylvania more than any other state. It is today the industry most essential to the winning of the war. Where are the skilled mechanics to be found to man the shipyards which are fast making the Delaware the greatest shipbuilding district on the globe? These and other most important questions are forcing themselves upon the attention of the Department of

Civilian Service and Labor. They are not simple or easy of solution. Another question, while not within the limits assigned to this paper, I feel I must call to your attention, as it transcends in importance all other questions which have presented themselves to the Department of Civilian Service and Labor. It is the question of how the labor and industry of Pennsylvania can best correlate and ally itself with the labor and industry of the nation so that the industrial resources of the entire country may be brought into harmonious action, and applied with overwhelming force to the tremendous war problem which confronts us. Pennsylvania is an empire in herself. She is industrially the queen of American Commonwealths. Let her industries stop and her mines close, and the fighting force of the British, French and Italian armies will shrivel and die. Gentlemen, this is a sober fact. The State of Pennsylvania itself produces more steel than the entire central empires of Europe; it produces vastly more coal than Germany and Austria combined. So you can see what the importance of this industrial State is to the solution of this war problem. But she is only one among many American sister states. Her industrial forces and every resource of money and men which she possesses must be placed absolutely at the disposal of the nation. This will mean that some of her less essential industries may be closed or that many of her sons may have to leave their homes and engage elsewhere in less congenial and perhaps in less lucrative employments. The situation must be met in a spirit of sacrifice. No single industry can be considered, no individual's advantage can be taken into account when the nation's interests are at stake. Pennsylvania is, I am sure, ready to meet the emergency, and to place herself without reserve at the disposal of the nation no matter what sacrifice may be involved, and her Safety Committee is organizing her man power and her industrial resources, so that they may be ready on the instant to answer this call of the nation whenever it comes.

CHAIRMAN PALMER: As another coincidence we have with us a new man of National repntation, who is particularly interested in the snbject which Mr. Felton has ontlined for us; a man who is giving his time and energy at Washington to help develop a national plan whereby the labor problem can be properly handled. I am going to take the liberty of calling upon Dr. Louis E. Reber to give us a word from Washington as to how this matter is being developed in a national way. It is perhaps rather an imposition to call upon him in this unexpected way but we will either |"select" him or "conscript" him, as you see fit to term it. We will "select" him.

It gives me pleasnre to introduce to you Dr. Louis E. Reber, Dean of the University of Wisconsin.

DR. REBER: Gentlemen of the Convention and Ladies, I happened in here this morning to meet a man whom I knew would be here in Harrisburg, not knowing at

all that there was a convention here. I feel as though I were out of place really in attempting to talk to you men for a minute. I am interested tremendously in the labor problem, but my interest in that particular problem is really quite recent, so that I am not informed in the sense that most of you are. I have been at Washington for the last eight weeks, and have come in touch with what they are trying to do there to meet this problem that you are discussing today. I firmly believe, however, taking into account everything I have heard, that Pennsylvania has done more, and is better organized to do than any state in the Union; and, frankly, I am going west—I am from Wisconsin—I am going west, as Mr. Palmer has stated, to see if the western states won't copy after Pennsylvania and organize their labor work as it is being organized here.

The scheme which Mr. Felton has outlined so admirably is one that it seems to me must be effective. You are most fortunate, however, I must say in Pennsylvania in having the funds to move with. So many of the states over the Union have not the funds and have not made provision for this work. They are floundering about, not knowing how to begin and what to do. I think the Council of National Defense has not done what it might have done to stir these states into some sort of channel which would bring about results. I think they are beginning to see that something must be done and Pennsylvania has gone ahead and set an example which I think is going to be followed in the main, the idea of the zone and the district officers, local officers, etc.

I am going to touch on a point in which I am particularly interested and that is that part of the Labor Department which is known as the Public Service Reserve. It is making an effort to have on record the willingness of men over the nation to serve the nation. That record is made up in such a way that it is not merely what the man would like to do, but the record states what the man has done and what he is prepared to do. At the beginning of the war, when the offer for service came in from everybody, many men were placed and asked to do things for which they were entirely unfitted. That has now been thoroughly recognized, and I think that the men who are asked to do things today at Washington are being scanned to see whether they are really capable to do the things they want to do and are being placed where they can really be of service and, as Mr. Felton has so well said, every man must be ignored so far as his individual interests are concerned, he must take his place where he is able to do and everybody will expect him to do what he is asked to do.

I do not know, Mr. Chairman, that I have anything further to say. I am very glad to have had this opportunity and I shall listen with interest to the speakers at the Convention and carry the messages to the West.

CHAIRMAN PALMER: I am sure we appreciate the response that has come from Dean Reber, of Wisconsin.

Mention has been made here several times this morning of the importance of labor in this national crisis. It has been my pleasure and good fortune to have been at Washington on an average of one day a week since the first of April and I, too, have seen the splendid work being done there in a patriotic, self-sacrificing way. As an official of the National Safety Council I have been serving as the Chairman of the National Committee on Industry Safety of the Council of National Defense Labor Committee. You know the Council of National Defense is made up of Cabinet members and the Advisory Commission is headed by labor and industrial and public spirited men, and under that Advisory Commission are a number of committees, one of them the Labor Committee. I am also a member of the National Committee on Mediation and Conciliation. It became necessary for me,

with the approval of Commissioner Jackson, to go to the Pacific Coast to assist the Navy and War Departments in organizing the navy yards and arsenals for safety. While out there, the Washington State Council of Defense, knowing that I had been associated with some of the mediators in Washington, asked that I sit in at North Yakima during the investigation of the I. W. W. problem in that state, and it impressed me, as I believe nothing else has, with the importance that we must attribute to the labor side of our war problem.

Mr. Farquhar spoke of the situation in England; that there they are eliminating the classes. Now, that is just what Commissioner Jackson has been trying to do here. Through our department we are trying to correct faulty conditions where they exist and bring together the employe and the employer, and this meeting today is simply an expression of the Commissioner's desire to promote the work of the Department along that line. We must work as a unit.

We have as the next number on the program "The Relationship of the Workmen's Compensation Laws to the Safety Movement." And right there is a keynote of this Conference, the conservation of those workers in the mills and mines and industrial establishments that must supply our armies at the front. Mr. John A. Phillips, Vice-President of the Pennsylvania Federation of Labor, is now to present that side.

THE RELATIONSHIP OF THE WORKMEN'S COMPENSATION LAWS TO THE SAFETY MOVEMENT.

By JOHN A. PHILLIPS, First Vice-President, Pennsylvania Federation of Labor, Philadelphia, Pa.

In its relationship to the safety movement the Compensation Act seems to be capable of two principal functions: First, to provide an effective system of compensation for the industrially injured; and second, to furnish incentive for all of the other activities which are directed toward solving the tremendously vital problem of accident elimination.

With reference to the function first noted, sufficient experience has already been gained to indicate that, with certain modifications, the compensation system can be so perfected as to care adequately for the injured employe; and when this has been accomplished a distinct contribution to the human relationship will have been made, for, beyond question, we know that the conditions which existed under the old liability system contributed directly to social unrest.

While it is true that statute law prohibited any limitation as to the amount of recovery by an injured employe, and, ostensibly, was a guarantee to the industrial worker, it is also true that the worker was without the right to exercise the power supposed to have been con-

ferred because of the common law defenses which had been set up as part of the legal system applicable in such cases. Large employers sternly resisted such claims, and small employers could not pay them if awarded. It is not to be wondered at, therefore, that the workers at large regarded this legal system as tantamount to a denial of justice, and that they developed a sort of fatalistic attitude toward the risk of injury, and bore the consequent financial loss and physical suffering as inevitable concomitants of industrial employment.

In applying the compensation system to this difficiulty, the Legislature of 1915 demonstrated again that the solution of a great many of our social and industrial ills depends primarily upon the method of approach; for by a single enactment it took from the employer the ground for contention against damage claims—which contentions were usually based upon the uncertainty of accident and the absence of definitely placed responsibility—and at the same time conferred upon the injured worker, with a degree of certainty, the opportunity of securing some return for the loss and suffering which he endured.

That broad principle of co-operation, to which the Chairman has referred, is the underlying basis of the compensation plan. There came about a general recognition, on the part of the State, the employer and the employe, that if human conservation was to become a reality, some means must be found to resolve the contentions which prevented the consummation of that desirable object; and it is a happy solution to the question of compensation payment where the cost, which seemed to be the principal bone of contention, through the application of the insurance system, was spread in such manner as to place the burden upon the community as a whole, where it properly belongs.

But, after all, even though we have taken care of the employe after injury, we have not solved the great problem, which is the elimination of accidents, not payment for accidents after they have occurred. In a sense the compensation system bears the same relationship to the community as does the hospital—it is very necessary when needed, but we would all like to do without it. The great responsibility which rests upon all of us is to devise the best methods toward constantly reducing the number of accidents; and while it would be extremely difficult to reduce the number of accidents to the vanishing point, anything that can be contributed to that end is of the very highest value.

We know that the Department of Labor and Industry has, up to the present time, put forth the most splendid efforts in every direction. We know that the personnel of the Department engaged in that work is such as to guarantee the very highest type of service. We know also that it is still necessary to advocate a closer and more continuous co-operation on the part of the other factors, the employers

and employes, in order to enable the Department to secure still greater results.

I have nothing of special importance to suggest as to new methods. I believe, in addition to the placing of safeguards on machinery, it is fair to make it mandatory upon the employe that such safeguard shall be used, that every device or instrument which may be approved as desirable toward the prevention of industrial accident shall conscientiously be employed. I believe, in numerous instances, a change in manufacturing processes might well be studied with a view to eliminating the hazard. Yet, these are the obvious things, and have their limitations. We may safeguard machinery and take care of a given percentage in the reduction of accidents; we may change processes and take care of another percentage, but there still remains, as the most important and most difficult factor in the whole situation—the personal equation, represented by the employe himself.

For the solution of this aspect of the problem we must apply our best thought to the development of a scientific system of industrial education. The education of the industrial worker of today will undoubtedly bring some immediate return, yet it seems highly important also to lay plans for the education of the industrial worker of tomorrow. The great changes now going on throughout the world indicate that the problem of educating the immigrant in industry is not going to be as big a task in the future as it is at present. An effective method of education should be installed in the school system, and particularly in the manual training schools, where the student would be thoroughly trained along safety-first lines. A child should not be taught the operation of a machine or the handling of tools, working on platforms, etc., without also being taught the possibility of accident therein involved. I believe that through co-operation between the school authorities and the Department of Labor and Industry there might be devised a comprehensive system of personal safety education, which when coupled with trade training and the study of dynamics, should be productive of the best possible results which we can hope to secure in that direction.

In conclusion, I wish to voice an opinion, which I believe represents the attitude of the trade unionists of Pennsylvania with respect to the present Compensation Act. We believe the greatest incentive to the prevention of industrial accidents is the financial cost to the industry. We believe that through the manner in which the cost of such compensation has been applied, the community, in the last analysis, bears the burden. We believe, therefore, by every right, the compensation rates should be adequate for the care of the injured employe, and advocate the following changes in the law: That the basis of compensation be raised from 50 per cent. to 66 2-3 per cent., with a maximum weekly payment of twenty dollars instead of ten dollars; that the waiting period be reduced from fourteen days to not more than

three days; and that compensation be provided for the totally incapacitated during the whole of the remaining life period.

When these changes are made in the compensation system we will have in that legislation a complete expression of the principle of cooperation on the part of the State, the employer and the employe.

CHAIRMAN PALMER: I am sure that you agree with me that we selected the right official to point out the relation between the compensation system and accident prevention.

We have, in the Department, a Division of Accident Prevention. Now that does not contradict the fact that the entire Bureau of Inspection particularly, and the Department generally, is being used for the conservation of life and welfare of the worker. However, we have established a Division that investigates every fatal and every serious accident that comes to the Department. We do not file the record of any case until we have evidence that something has been done to prevent a recurrence of a similar accident. Many times it is very difficult to show the foreman, or the employer just how an accident could have been prevented, but we believe that it is far safer to take the ground that all accidents are preventable than to admit that there is even a small class to be placed under the unpreventable accident class.

Mr. Phillips has spoken about correction of careless and improper methods. We know, those of us who have had to do with the investigation of accidents, that there are apparently a small number to be prevented by the installation of purely mechanical safeguards. The Department of Labor and Industry feels that its first responsibility rests in seeing that proper and safe places are provided in which the workmen can work; that, as the employer is first in duty bound to safeguard his machinery and his working places so the State must first see to it that the machinery is properly guarded; but after that we maintain that we have a moral right—perhaps not written into the law—to see to it that safety committees are installed along with safeguards; because, as Mr. Phillips has said, it is a matter of education. We have analyzed the accidents of the State and find to our regret that out of 25,000 fatal industrial accidents occurring annually in the United States, Pennsylvania shows more than ten per cent. on her record. We also have analyzed geographically where those accidents occurred. You will find maps posted in the various supervising inspectors' offices, as well as in our general office here in Harrisburg, which show geographically the location of every fatal accident that occurs in this State, discriminating between an industrial accident, a public service accident, and a mine accident by a different colored tack placed on the map. Naturally, Pittsburgh, which is recognized as the industrial center, where we have the heaviest industries, has the heaviest toll. We understand that, and it is to be expected, and that is where we have thus far devoted the major part of our drive against preventable accidents. Mr. Robert D. Young, who is at the head of the Accident Prevention Division, has just returned from Pittsburgh, having spent two weeks in that district, and he reports that both the employers and employes are getting together as they never have before in endeavoring to solve that problem. Around Pittsburgh, we have developed from fifteen to twenty district locals of the Pittsburgh Accident Prevention Organization and I feel sure that within a reasonable period the three hundred and some fatal accidents annually will be reduced to a minimum.

Our Commissioner, Major Jackson, has always taken an active part in this accident prevention work. He has been on the committee of the American Society of Mechanical Engineers, who have given their time voluntarily to the development of

interstate and national standards. He is today the Chairman of the Governmental Section of the National Safety Council and he has called in all accident prevention agencies, and has also developed within organized labor an accident prevention organization such as has not been developed in any other state. Through Mr. William Young, one of our Department men, representing labor, he has started committees within the State and local unions; and in that connection I will say that it was most gratifying to me that a resolution prepared by the Labor Committee of the National Committee on Industrial Safety, was presented before the Buffalo convention of the American Federation of Labor, which resolution placed that convention on record as approving the plan of the Council of National Defense in the development of a National Committee of Safety within organized labor, a State Safety Committee in each of the industrial states and a local State Committee in each of the labor locals. Now you can readily see with an agency such as that, an organization aimed at correcting those faults that lie within their jurisdiction, we bid fair to reduce further the industrial accidents that occur throughout the country at large. As I recall it, some three to five years ago our national record stood at 35,000 fatal industrial accidents. We have been able through organization and through education to reduce that to something like 25,000; but along with that has grown and developed a rather formidable record from the "Public Safety" standpoint, as the best available statistics show something like sixty to seventy thousand public safety accidents. The National Safety Council, the American Museum of Safety, and the Public Schools are endeavoring to develop a plan, as suggested by Mr. Phillips, whereby we can educate the children and the public at large to the responsibility which never before meant so much to our nation as a whole.

On the discussion of Mr. Phillips' paper, we call first upon Mr. Roger J. Dever, Attorney, Anthracite Mine Workers, Wilkes-Barre, Pa.

By the way, it was Mr. Lewis, of the United Mine Workers of America, who presented that resolution at Buffalo.

I now take pleasure in introducing to you Mr. Dever.

THE RELATIONSHIP OF THE WORKMEN'S COMPENSATION LAWS TO THE SAFETY MOVEMENT.

By ROGER J. DEVER, Attorney, Anthracite Mine Workers, Wilkes-Barre, Pa.

Mr. Chairman, ladies and gentlemen: On the discussion as to the effect of compensation laws on the safety movement, we might divide the periods into three: "Where have we been; where are we at, and where will we arrive." In the limited time allotted to me for such a discussion, I think we had better reflect into the past and take a look at conditions as they existed.

When we saw fit to separate from the mother country, we took with us the principles of the common law as declared by judges as being the precedents to govern in the relationship of employe and employer.

When the employe saw fit to institute proceedings for redress by way of injury, he was confronted with a decision handed down some four hundred years ago where the son of a peasant brought suit in London —rather, the father of the son brought suit in London for injuries to the boy who had been employed by a grocer. It was there declared for the first time that the father could not recover because that boy assumed the risk of the employment; so when we became a nation, we said unto the master and servant that the servant assumes the risk of his employment and if injury befalls him in that risk he cannot recover. We also took with us the principle of law that the servant could not recover for his negligence; if he was in any way negligent in the performance of his work he was without redress. We also took with us the principle that he could not recover if the negligence which caused the injury was that of a fellow servant. Those principles of law may have been right; they may have been just when declared so by the courts in England; but in a community, a nation grown as we have grown, they should have been remedied, modified or eliminated years ago. Not only were we confined in our right to recover according to the precepts of the common law, but in our early stages in attempting to increase safety by way of legislation we imposed an additional hardship.

Somewhere about 1869 one of the first serious mine catastrophes took place in the hard coal region where something like one hundred men lost their lives in the little town of Avondale, near Nanticoke. It was that disaster which caused the Legislature of this State to place upon the statute books what was intended to be adequate safety and ventilation laws. That accident took place because there was not a second opening by which the men in that mine could escape. The breaker took fire and all persons underneath the surface perished because there was no other exit. Those who labored with the mining legislation concluded to remove that evil and they were honest in their efforts and in framing the law, requiring that all seams of coal be provided with a second opening. The health and safety of mine employes was cared for in the statute requiring the employer to better safeguard the employe and they provided a right of action to those who were injured in the course of their employment; they also provided a right of action should survive to the widows and orphans of those who were killed as the result of any accident received in the course of their employment. The statute as passed in 1891 provided that the mine operator be required to employ a certified mine foreman, and a few years after 1891 that Act was declared unconstitutional because as stated by the court, the employer was required to employ as foremen men certified as competent by the State of Pennsylvania and hence could not exercise the right of free selection of his servants. In declaring the Act unconstitutional, the remedies

provided in the Act for death and injury fell with it and all that was necessary to defeat the claim of the plaintiff who sought damages for death or injury was to show that the mine was in charge of a certified mine foremen for whose neglect the employer was not responsible, and we slumbered from 1891 until 1915 before we remedied that condition. We permitted accident after accident to take place in the hard coal mines without a remedy. The only defense necessary to turn the widow and children from the court was, "This happened because of the negligence of a mine foreman and there can be no recovery for this accident." I do not censure the mine operator or those owning the mines for such a condition. We must censure ourselves for permitting it to exist because those laws should have been remedied long before they were. I cite this single instance in order that this audience may be impressed that not only should the general law have been remedied when it was or prior thereto, but there were special cases that should have received attention long before they did; and although in the halls of this very legislative building, our Capitol, time and again a change of these laws was advocated, not until 1915 did we meet a condition where we could convince those in charge of the law making process that such was necessary.

The relation between compensation laws and the safety movement might be divided into three heads, or rather the industry itself might be divided into three heads. No industry can operate without three products, the mechanical, the animal, and the human; and since an industry has been an industry, there has always been compensation attention paid to the mechanical product and there has always been compensation attention paid to the animal product, but we have overlooked in some way compensation attention to the human product. If you are a manufacturer or if you are engaged in any business and the machine necessary to turn out the work becomes worn out or is broken, it is replaced regardless as to cost. If the animal power necessary to keep your plant in operation became defective, it would be replaced without regard to cost; yet year after year in this great Commonwealth, we turned from our works the human product in such a condition by reason of accidents, if not an accident such as we have been able to see, an accident which is far more alarming, namely, injury because of the improper condition of the plant by reason of lack of attention on some one's part whereby the atmosphere was not fit to work in and the physical condition of the human being was slowly dragged down day after day and old age set in long before it should without a monetary consideration on our part for the damage done. Day after day we have turned from our mines, our factories, and our mills the human product without attention. We have sat back and waited for other states to set the example. In 1915 there was some one in charge of the law-making in this state in the person

of Governor Brumbaugh who had the courage of his conviction and he said to the men who sat in the chairs you now occupy, and the men who sat in the chairs of the higher branch of this House: "The existing condition relative to the workmen of our State must be eliminated," and well I remember the Attorney General of this State, when he stood over there where the President of the Pennsylvania Federation of Labor, Mr. Maurer, now sits, and told those who were advocating the retention of the common law defenses, if the employe did not accept this law, "you have enjoyed the common law defenses far beyond the time they are useful; they should have been eliminated years ago."

This money mad craze of men at the expense of human life must come to an end. This money mad craze at the expense of human life is coming to an end and will come to a more definite end. Without labor, what is capital and without capital what is labor? As was said by my aged and respected friend from York, we should be one family without question and we will be. Nothing has ever happened which will cause us to realize that this is true more than this present war. When we realize that we should be one family, and that labor is worthy of its hire, and in case the fathers of dependents are taken away, those dependents must be supported by the industry, a condition will then exist more beneficial to both capital and labor. Those principles of law containing iron-bound rules, which tend to defeat the employe in his right of action for injury, have now been modified. The Compensation Law has been placed upon our statute books and I have heard it said that more accidents have taken place since the law was placed there than ever before. Ladies and gentlemen, that is not so, I desire to suggest what is so; we know more about our business now than we did before. Heretofore things happened at the works we knew nothing about; henceforth we will know more about this and when we do, we will remedy the condition. No greater work toward safety can be accomplished than by keeping accurate records of accidents, showing how they take place and what caused them, and with a rigid hand, pass safety laws to overcome the condition and see that they are enforced.

When the Compensation Law becomes a burden upon the industry, just that soon the person in charge of any particular part of the industry will realize he must conserve human life or the cost of his production will increase. He will have a personal interest in reducing accidents, but the State officials should have an interest far above that. Why should this State permit mills, mines and factories to operate and reap all their harvest if they do it at the reckless expense of the single human life that could have been spared if proper safety laws had been placed on the books and had been observed. We must come to that feeling and that spirit; we must not forget we are equal. Remove today the men of the mines, as was said by

my aged friend from York, and where is your nation? It crumbles; it falls. Yet no combination of workmen or employes under God's great sun suffered the hardships they suffered by way of compensation since 1891. You have given them some relief, you must give them more. The payment of money for what happened is one thing; but how much better it would be if you did not have to pay it because you spared the life.

I have given some attention to certain lines of this safety movement. Much can be accomplished if we work in unity with each other, but nothing will be accomplished if we have meetings, discuss this subject, go home and forget it. These meetings are called together in the interest of combinations of business; we should go home when the meetings are over and put into effect every thought we receive here, plus those we ourselves think can be put forth to save human life. They say safety devices will overcome the difficulty. To a certain extent they will, but in addition to safety devices, your working conditions should be such that people can work thereunder free from any dangers. You take your mills, your mines, and your factories; Pennsylvania should be at a stage now that skilled men would be sent to the works daily to take therefrom samples of the air, have it analyzed and tell the Department of Labor what it contains. We should have records as to the temperature both by the dry and wet bulb thermometers in order that the medical staff here could advise as to whether or not the conditions are fit to work therein, we should have samples of the atmosphere of every mine, every mill, and every factory analyzed daily to ascertain what gases, if any, dangerous to life or health are found and to have them eliminated.

This Department of Labor and Industry should classify their accidents. They know now how many workmen, since this Act of Assembly went into effect, have been turned from the mill, mine or factory minus an eye, a hand, a leg, a foot, or arm within the terms of this Act. They should know why such accidents happen. They should call to account those who are negligent, if negligence was the cause, because human life is too sacred to be dealt with cheaply and when they compile such figures and rule with an iron hand over both the employer and employe, then at the end of each business year you will find a reduction of accidents compared with the past. I have gone over records and found in a mining community certain men operating mines who are capable of mining a million tons of coal per fatal accident, while their neighbors do not seem to be able to mine more than a hundred and twenty thousand tons per fatal accident. They have exactly the same conditions; they have the same things to contend with, everything is similar except the method of doing the work, the cost sheet cuts a figure in one

place while it does not in the other. When this great Department of Labor and Industry will take charge of this great problem in a way so as to dictate to both the employe and employer "You shall be governed by a strict adherence, by a strict interpretation and observation of the laws we are to here administer," then you will realize accidents will be reduced; compensation will be a direct cause because it is through the compensation movement these statistics are gathered and the information obtained as to the number of accidents happening daily, the cause of such accidents and what is necessary to have them reduced.

Let the Department of Labor and Industry make good use of the records thus obtained and demonstrate to the employer and the employe that on account of the information furnished because of our Compensation Law, the death and injury rate will be reduced and Pennsylvania will emerge from its slumbers of indifference, to be the real progressive State of the nation in the safety movement.

CHAIRMAN PALMER: George T. Fonda, Director of Labor and Safety, Bethlehem Steel Company, South Bethlehem, Pa., will continue the discussion. We certainly enjoyed Mr. Dever's remarks.

THE RELATIONSHIP OF THE WORKMEN'S COMPENSATION LAWS TO THE SAFETY MOVEMENT.

By GEORGE T. FONDA, Director of Labor and Safety, Bethlehem Steel Company, South Bethlehem, Pa.

Mr. Chairman, ladies and gentlemen, I do not believe that any of us presume that the compensation law of this State and other States has not had a material effect upon the safety movement. However, there are certain phases of the situation which I will try to point out in my part of the discussion and I feel it a privilege to address you.

In the first place, there are a good many industries in this country that had considerable safety work under way before compensation laws were generally put into effect. Those industries were in many cases the larger industries and it was good business for them to conserve their human resources. I think probably everybody here is familiar with the large propaganda that the United States Steel Corporation has had under way for a good many years, and

that it was done because of the humanitarian consideration for its employes. As a matter of fact, the compensation laws have forced a good many of the smaller industries to recognize the safety movement as essential to their business and no doubt compensation laws in general have been responsible for the national movement which has become a general propaganda and which perhaps otherwise might not have occurred at such an early date. It is most fortunate for this country that this consideration has had some headway previous to this international situation which is upon us because, as everybody admits and realizes, it must be the conservation of human resources and the application of those resources which is going to win this war; and I can come to you as representing one of the largest arsenals—for such it is—in this country today, whose function in this war will probably have considerable to do with the ultimate result; and I want to say to you that we consider the conservation of our human resources as the most vital question.

Now, Compensation laws have made it possible for us to do one thing in particular and that is to consider the direct cost of meeting the liabilities as the result of industrial accidents. That was not possible before the laws were put into effect. It immediately gives you an opportunity to effect conservation in the various branches of any industry in a very definite way. Today you will find, particularly in the iron and steel industry, and I presume it is true in a great many other industries, that the whole force is working under very heavy pressure; the heads of departments are being pushed for production; every individual man in the department is being pushed for production, and that production must be kept up to the maximum. The result is that that particular department head and his associates, no matter how humane they may be—and I think you will agree that most of them are humane, many of these men have come up from the rank and file—he has got to consider his production in dollars and cents and in terms of cost, and particularly is that true with the companies that are doing Government work, because, as you know, the United States Government has controlled all of the profits and limited them to a certain percentage. Now, by writing into the cost of the particular operation of cost of compensation to that particular department you immediately have a factor which that department head is bound to consider and he will consider it as part of the operation and the result, of course, produces a benefit to the employes of the department and to the plant in general. This is brought about through compensation laws, and it is, I think, a condition which, while it may be right or it may be wrong to state it this way, nevertheless has been forced upon us under circumstances over which we have

had no control and the mere fact that the results can be obtained through this medium should be sufficient to prove the value of compensation laws.

The points which were made by Mr. Farquhar and Mr. Felton simply magnify the importance of conservation of human life. The greatest way to conserve these resources is undoubtedly through an educational propaganda and every one that is engaged in the safety movement today is doing all he can through those channels, but it is impossible to get one hundred per cent. efficiency out of any educational program insofar as the safety movement is concerned. I am at a loss to know, and a good many of you are at a loss to know, just how the educational work we are all doing is going to produce the maximum result. There are not many industrial accidents today caused by defective equipment and lack of safeguards. Those things have been done in the very early stages of the safety movement in almost every case. How are we going to get the men in our industries to appreciate that this is being done for their benefit and know that they are going to accept the educational work that is being done and help us to eliminate the accidents which are largely due to the carelessness of the men injured or carelessness of some fellow-worker? If we can accomplish that we can do the most to prevent industrial accidents and conserve human life which is an advantage to the employe and employer alike. I think we ought to take away with us just that thought, that the employe must be impressed with the fact that he must be absolutely open to all the educational propaganda that is in effect for his betterment. If he fully appreciates that he will then do most to help the safety movement and reduce the tremendous loss of life and limb.

In conclusion, let me refer back to some of the things that were said by Mr. Farquhar and Mr. Felton and to say that we must consider the problems we have to meet, including conservation of our human resources. We must consider and meet these problems as national problems and not individual problems. It is not going to be a question of the interest of John Jones or Henry Smith, or one industry here and another industry there. We must think in terms of the nation. It is not the time to do the usual things in the usual way but rather we must do the unusual things in the unusual way and it is going to be necessary to take groups of men in one industry and to place them in another. This is going to involve a considerable number of new hazards to the individual worker and we have all got to meet this new condition. We will all have to work together in the training of the new industrial army which will be necessary to win this great war and thereby make the world safe for us all to live in.

CHAIRMAN PALMER: There is just one announcement to be made at this time and I would like Doctor Francis D. Patterson, Chief of the Division of Hygiene and Engineering of the Department of Labor and Industry, to make it.

DR. PATTERSON: Mr. Chairman, ladies and gentlemen: I am sure it needs no words of mine to impress upon this organization the magnitude of the present crisis that has come upon this country. If we stop and think of the fact that all the nations of Europe, with the exception of Germany, are looking to the United States of America to supply the food that they must have in order that life even may be sustained, it seems to us that we ought to pause, carefully consider and decide whether in this present crisis it is right to take the grain and to convert that grain into alcoholic liquors.

Furthermore, let us stop and consider the millions of tons of coal that must be mined, largely within the borders of this Commonwealth, in order that our railroad trains may carry our troops, our persons, our various freight, and our munitions of war; may speed our warships on their errand of mercy, so that in the last analysis the submarine, the water moccasin of the seas, may be driven down to the depths of the ocean. Let us pause and consider the millions of tons of steel, billets and fabricated steel and iron that must be made so that we may have rails to lay from the port in France where our troops land, up to the firing line; the projectiles and guns that must be made, in order that we may have the necessary number of guns and the necessary ammunition. Think of the millions of pounds of chemicals, the result of that wonderful art which seems more like the alchemy of old, which on the one hand takes the coal tar, that dark substance, and converts it perhaps into explosives of tremendous violence, or, on the other hand into substances which are marvelous in their perfume and in the beauty of their color and action.

With all these wonders I want to leave with you all the thought that when our men come home from France some are coming back maimed, blinded, and otherwise disabled. This afternoon Major Mock, of the United States Army, will be with us to present to you manufacturers the plans of our Government to make it possible for these handicaps to find their proper places in industry and be self-supporting citizens of this the greatest Commonwealth in all the world.

CHAIRMAN PALMER: Our Governor.

ADDRESS OF WELCOME.

By GOVERNOR MARTIN G. BRUMBAUGH.

Mr. Chairman and my Fellow Pennsylvanians and our visiting friends: I regret that an imperative call out of the city last night prevented my being here at the appointed hour to speak a word of welcome to you as you come back to this Annual Conference of Welfare and Efficiency in the service of the industries of this Commonwealth;

but I am glad to be here even if I am late because I want always to be counted among those who not only believe but who are willing to work for the betterment of the conditions of the industries and the industrial workers of Pennsylvania.

We are the most important producing Commonwealth in manufacture in the United States. The responsibility upon this great Commonwealth is the largest responsibility that rests upon any people, and in this particular period when we are at war with a stubborn foe it is peculiarly imperative that every man and every corporation, in fact, every citizen and every interest of this Commonwealth should see to it that our industries are kept at a maximum of efficiency and our toilers under a maximum of safety. If you can work that thought out in your conference here, today and tomorrow, you will have added another to the already important series of obligations Pennsylvania owes to you who are the leaders of thought in the several departments of efficiency and safety in the industries of the Commonwealth. There is another thing about which I wish to speak for a minute. Some three months ago or thereabout our Ambassador to Germany, Mr. Gerard, came to Harrisburg and spoke before our Chamber of Commerce. Among the things that he said that brought home our problem vividly to me was this: He said, "Pennsylvania is the arsenal of this Republic; without Pennsylvania's industries and Pennsylvania's contribution to the nation this war could not be successfully carried on and honorably concluded." And that is true, ladies and gentlemen. It is, in the parlance of the street, "up to us" in a very large way to "make good" day by day in the stable earnest, productive activities of our people, to the end that this nation and the nations at war against us may know, and may know every hour of the year, that everything that Pennsylvania is and everything that Pennsylvania does shall be done splendidly well for this Republic in her hour of need. (Applapse.) And I have neither sympathy, nor time, nor patience with any man or group of men who for a moment would undertake to disturb that solemn opportunity which is now Pennsylvania's. (Applause.)

In talking with a man of my own State, for whom I cherish a very high regard, he told me, among other things, that he was expending now an average of $1,500,000 every twenty-four hours for labor and for raw materials in his industries and that eighty per cent. of the output of his mills went directly to the American Government. It is a service in magnitude and in patriotic endeavor perhaps not equaled in the history of the world. It is one of many such in this great Commonwealth of ours that today gives heart and hope and power to our assembling armies and to our men at the front in France. Now I ask you, therefore, in this war time particularly, to exercise your utmost endeavor to see to it that everywhere in Pennsylvania, in our mills and in our factories, and in our mines, and our forges, and everywhere that

labor shall be properly rewarded and absolutely safeguarded; that capital shall be properly respected and that property and life shall be as secure in Pennsylvania now as it ever was in days of peace. That is our problem. (Applause.) You are facing conditions that are unusual. Your mills, your mines, your factories must all be speeded, not only in longer hours of production but perhaps at a more rapid speed of production than heretofore; and I need not tell you the hazard that accompanies such increased activities. Furthermore, you will remember that even now substantially one hundred thousand of the most efficient toilers in the industries of Pennsylvania are in the training camps and in the armies of the Republic. (Applause.) We are calling these men away; others must take their places; perhaps others equally patriotic but not equally skilled, and with new men and enlarged activities and the speeding up of industry everywhere in answer to patriotic appeal, more than ever before, those of you who supervise men in labor anywhere in Pennsylvania should exercise more than usual precaution to see to it that toil shall be performed in safety and products turned regularly and constantly to the needs of the nation. So I want to counsel you about that and tell you just in a word one or two things that have recently impressed me.

I have just come from the southern camps where the men are in training for the army of the Republic. We saw, in that little tour of six days, substantially eighty thousand Pennsylvania men under arms answering the call of the country, as fine a body of men physically and patriotically as ever marched in the service of any country in the world at any time in its history. (Applause.) At Camp Hancock, near Augusta, Georgia, are twenty-six, in fact twenty-eight thousand Pennsylvania men, all volunteers. It is the old National Guard of Pennsylvania. (Applause.) And the Secretary of War did not deny the statement—perhaps it was because of my physical size as compared with his—when I challenged him with this remark that no state in the Union has turned a finer National Guard into a National Army than the men at Camp Hancock from Pennsylvania, at Ford Oglethorpe on the old Chickamauga Battle Field, just out of Chickamauga, where there are now three camps, a camp of the regular army, a medical training camp, and an officers' training camp. (Applause.)

We met, among others, Colonel Slocum of the United States Army. He told me a story that I want to tell to you, illustrating something of the feeling that ought to be in our hearts today in Pennsylvania. He said that when he opened that training camp some weeks ago a man came to him who was dirty, wearing soiled linen, a battered hat, and dirty shoes, and asked of the Colonel permission to enter the camp. And the Colonel said, "Tell me about yourself." And the man said, "Twice I enlisted, twice I served my period of enlistment, and

twice I have been honorably discharged from the Army of the United States; at the end of my second enlistment I went to South America; I worked in the open on a plantation and bit by bit rose to the point where I was made the superintendent of the plantation at a large salary, and almost at the time that I had realized my ambition a newspaper came in over the mountains and I read in it that my country was in this war." He said, "I resigned my position and on the back of a mule I rode four hundred and sixty miles to the coast; worked my way up to the Zone and crossed the Canal and came to New Orleans without a dollar." Continuing, he said, "I bummed my way up here; I want to come into the army and serve my country." Colonel Slocum said, "You are on," and sent him over to the medical corps for physical examination and they turned him down; and Colonel Slocum, who uses language that you only hear in this House once in a while in parliamentary debate, said to the medical examiners. "You can't turn that man down, he has lived in the open, he has served his country and by God he is going to serve it again." And the Colonel added, with his hand on my arm, "Next week I am going to make him a lieutenant in the United States Army." (Applause.)

My friends, if a youngster like that could hear the call in the wilds of South America and fight his way into the service of his country surely those of us that are here in the heart of the finest country in the world, in the old Keystone State, ought to give everything we have, in thought, in prayer, in money, in industry, to this Nation of ours now that it may speedily come out of this war with a victory for democracy and decency for the whole civilized world. So we are under the shadow of momentous days, the kind of days that my mother used to tell me about, through which as a young woman she lived and nursed me in her arms when the boys from the farms in the valley were down under Meade and Grant at the front with the army in Virginia. It is war time, gentlemen, and everything that Pennsylvania has and everything that Pennsylvania can do is securely pledged to this nation for her help in this hour of her need. (Applause.)

Your conference here today and tomorrow will give purpose and heart to the great State in its patriotic need of endeavor to serve the country commandingly well. I look upon you therefore as a convention of great moment in a crisis in the life of our people and I counsel you in love to give the best that is in you that men may toil and women may live and industry may flourish in Pennsylvania.(Applause.)

CHAIRMAN PALMER: I think after that inspiring address there is nothing more to be said, and this Conference stands adjourned until this afternoon's session which is scheduled to meet in this room at two o'clock sharp.

WEDNESDAY, NOVEMBER 21, 1917.

Afternoon Session—2 o'clock.

Chairman, MRS. THOMAS ROBINS, Director, Department of Women in Industry, Pennsylvania Division, Woman's Committee, Council of National Defense, Philadelphia, Pa.

DR. PATTERSON: I am sure that you will agree with me that the State of Penusylvania has very great reason to be proud of the wonderful serviee that has always been rendered to it by the women of the Commonwealth. One of those ladies who has heen of extraordiuary serviee to our Commonwealth iu her work in the Emergeney Aid in the City of Philadelphia and in the Departmeut of Women in Industry in the Division of the Woman's Committee of our Council of National Defense is Mrs. Thomas Robins, of the City of Philadelphia.

It gives me very great pleasure to present to you Mrs. Rohins, who will aet as the Chairman of the afternoon's session.

CHAIRMAN ROBINS: Gentlemen and ladies: I am well aware that the first qualification in a Chairman must be hrevity and therefore I shall only detaiu you a very few moments before introdueiug to you the real speakers of the afteruoou, Dr. Hamiltou, Major Moek, and Mrs. Kelley.

We have come to the meeting of this hody this afternoon in an effort which is epoeh making iu the history of women. Sinee the meeting here last year the war has hrought women to the front in a way they uever dreamed could be possible hefore. Their aid has heen asked in every walk of life. They have done their best, according to their ahility; sometimes they sueeeeded; and sometimes they failed. They have always had a great and kind consideration from those they were trying to help. We have entered iuto this war hecause of three great moving fundamental reasons: the first, humauity; the second, democracy; aud the third, industrial freedom. The first appeals to every heart; the seeond is a fundamental principle which we must uphold; and the last espeeially affeets all of us who are here today. When that great ultimatum of Germany eame, "Your ports must be closed to commerce and the oeean must uo longer he free to American shipping," a blow was dealt at every American working man and woman. With our ships elose to our harhors, with our grain hursting from the elevators, with our industries all closed, American freedom could no longer exist for the men and women who worked. The seas that were free to Columbus and to the Pilgrim Fathers and to the thousands of eager hearts that have crossed them looking for a new future could never be closed to the American men and women in industry, and for this reason I feel that the war comes more home to us, entirely aside from the work you propose to do, it comes home more to the people assemhled here today than any other class. The rich man can close his plants, can close his house and he can go far away to distant parts of this country and wait for industrial heginnings again, but the war has brought to him suffering in every way. He has lost his children; he has to face the perils that the war has hrought to them. To us and to those who work, the war has hrought a different phase in life. It has given a career and an opportunity to every man and woman in industry. It has given a ehance to do what they never hoped to do before, to place themselves on a substantial footing which, let us hope, will remain forever. It has given us a chance for co-operation which we

never dreamed of. It has put the manufacturer and employe side by side in one great object which is the success of this war. But it has given us obligations which we must all take seriously. It has given the obligation of justice in our wages. It has given us the obligation of maintaining standards in women's work. It has given us the obligation to see that her health is maintained, and the factory conditions are such as shall not bring peril to the inexperienced men and women who have come into the field.

Now I cannot talk to you of those things as those who follow me can do and for this reason I am going to give way to Dr. Alice Hamilton, who will speak to you on "The Possibilities and Limitations of the Employment of Women in Industry."

I therefore take great pleasure in introducing Dr. Hamilton to you.

THE POSSIBILITIES AND LIMITATIONS OF THE EMPLOYMENT OF WOMEN IN INDUSTRY.

By DR. ALICE HAMILTON, United States Bureau of Labor Statistics, Washington, D. C.

The entry of our country into the war, has, of course, brought about a very great increase in the responsibility of all women and in their desire to do their share in the work of the war, to face their part of the sacrifice and possibly of the suffering that comes with the war. There are certain ways in which it seems today that they can do this by perhaps going into industry, when never before did they work in industry, or perhaps dropping some work that they had been trained to do, but that has no direct bearing upon the war, and entering into work that is more directly war work. This desire to be directly connected with the enterprise that has taken the men closest and dearest to them is very natural and, of course, destined to grow in extent and strength. It is a very valuable enthusiasm, but it needs guidance. It is for the state to see to it that this enthusiasm is guided along wise channels, because if it is not, there is grave risk that it may carry women into occupations not fitted for them or into occupations that will rob them of their health and strength.

Before we consider what the occupations are that women ought to go into now, I think we ought to examine a little more closely the emergency that lies before us. The general impression is that this emergency is very urgent, that industry is crippled by lack of men and that, as a patriotic duty, women should be offering themselves to fill their places; in fact, the need seems so great to many people that

they are ready to see women take any kind of work, no matter how strenuous, on the plea that the country requires sacrifices from its women as well as from its men. Now, if that were true, if it were true that the industries vitally necessary for our successful prosecution of the war were so threatened because of lack of men that they might even stop or at least be gravely hampered, then we should face the situation that has been faced in European countries in which the barriers once erected to protect the actual and the future mothers of the race have been very largely taken down. But I think we have no reason to believe that we do face any such emergency as that.

The United States Bureau of Labor Statistics has made an inquiry on the shortage of labor and they tell us that it is not as yet anything like so great as that. The apparent shortage in certain industries is certainly very notable, in those which require large numbers of workers for short periods of time, but this shortage, we are told, is due not to lack of workers but to faulty distribution, to competition in wages between employers and to inadequate housing,—a very important point, because you must remember that the men that have entered the army are to a great extent unmarried men, that those left in industry are married men who are not likely to go away in search of work, living in lodging houses as unmarried men do; so that the housing situation has a great deal to do with the trouble, and the seasonal nature of the work offered, not permanent employment. I do not mean that there is not, of course, an increased demand for men and women in industry, but that it is not so desperate as to make us feel that we must not stop and scrutinize closely the occupation seeking the women and that we must have them rushed in as recklessly and hastily as soldiers are rushed to the firing line when the need is great. This increased demand for women is, in a way, very fortunate for them. It enables them to push into work that hitherto has been closed to them and has always been in the hands of men. But it will be no boon to women if it demands that they are to enter trades which are not fitted for them and do work which will injure their health. That is the test that should be applied when we consider an occupation for women. Is it of such a nature that the effects will be worse physically upon the women than they are upon the men? Of course, that is not the test that has been applied to industry heretofore. If it were, we should not have tens of thousands scrubbing floors or working over the washtub.

There is certainly no particular reason why certain occupations should always have been relegated to women instead of men. It is only when a new occupation is offered to women that we have a chance to scrutinize and watch it more closely than one in which we are accustomed to seeing women work. That was brought to my attention very vividly once when I was leaving a large public library.

A man, who was a strong anti-feminist and who abhorred the entry of women into medicine because he could not bear to think of their doing such hard work, spoke on this subject as we were passing a man dressed in uniform whose duty it was to wave people in certain directions and at his feet a woman was kneeling scrubbing the floor, and I said to him, "Doesn't that seem incongruous to you, that woman on her knees scrubbing the floor and the man moving his arm back and forth?" He said, "Women always did scrub." What a contradiction! Through chivalry he had been opposed to women going through medical schools and practicing medicine but he had seen nothing strange at all in the division of those two occupations between the man and the woman; it seemed perfectly natural to him. But we have the chance to look with fresh eyes at these new occupations open to women and to really test them, not simply accept them because that is the sort of thing always being done. I am not attempting to suggest that industry be so changed that women no longer do work too heavy for them. Women will keep on scrubbing floors and washing clothes; that must wait, that must go on.

I simply want you to consider the new occupations offered to them. As long as women can be given positions as floor walkers, ticket sellers, ticket choppers, cashiers, telegraphers, typists, and so on, the call for women to work in lumber yards, rolling mills, freight yards and foundries may be scrutinized with great care. The test to apply is this: will the work injure women and children and not injure men? Now, some work undoubtedly does this, for instance, lifting a heavy weight. We do not know how heavy a weight a woman should be allowed to lift. We do not know how heavy a weight she should be allowed to lift occasionally in the course of a day or how heavy a weight she should be allowed to lift at frequent intervals. Dr. Patterson tells me that the State of Pennsylvania is considering making fifteen pounds the limit for continuous labor. I suppose that would be too light for some young women. It would be too heavy for me. I could not lift or throw fifteen pounds continuously or frequently throughout an eight or ten hour day. I am quite aware that there are others who might. I do not know how this is to be determined unless we hand it over to the industrial physicians and have each woman, who is to undertake a heavy occupation, physically examined and then examined at fairly frequent intervals so as to determine whether the work is injuring her. I know if we allow the women to enter heavy work without such safeguards we run the risk of bringing about organic disturbances which will make women unfit for healthy motherhood and that is just as wasteful a thing as organized society could possibly do. This, of course, rules many women out of many occupations. It rules them out of a good deal of munition work in which they are so anxious to enter, but by no means all.

Much of the manufacture of explosives is not attended with any heavy lifting. This can be done by groups of women with one man attached to each group to do the heavy lifting. That is the custom at present in England where one man is attached to so many women to do the occasional heavy lifting that must be done. The employment of women in the manufacture of explosives can perfectly well be done and will be if we can overcome the American horror of placing a woman in a position of danger, in a place where an explosion may cost her life. I am myself in favor of employing women in all such work so long as the danger is not one to which her sex is peculiarly liable; so long as the danger is one which a man faces equally, I think there is no reason why a woman should not face it also.

Women do not stand continuous night work well. The evidence on this point was so strong as to bring most of the countries of the civilized world, the United States excepted, into an international agreement to abolish night work for women. That agreement, of course, since the war, has gone into discard. Women do not endure long hours as well as men, especially if they stand at their work, for the woman's skeleton and muscular system is not so well adapted to standing as is a man's. But if the work is not standing the woman does not endure long hours as well as a man does; so I should say that an occupation which did not involve standing and which was in every other way unobjectionable becomes objectionable if the hours are too long. So in considering the employment of women in industry the question of hours becomes one of great importance. Women endure heat less well than men do and they endure cold better. I think, for instance, in a rubber goods factory where men and women are working in the same room and doing the same sort of work, using rubber cement with benzine, naphtha, or benzol as a solvent, you will find more women overcome by the fumes in hot weather than men, and you will have more cases of heat—not prostration by being overcome in hot summer weather—among women than men; and yet the very hot and exhaustive work in laundries has long been given to women and will continue to be given to them. There is hardly any new work that they will be called upon to do that will have more heat and humidity than the laundry work.

When we come to those industries in which injurious substances are handled, there is, so far as I know—and, of course, experience within the next few months may show that this is not true—but so far I know, there is no substance that has been proved to be more harmful to women than men except lead. The other day Dr. Stengel said, in commenting upon this, that experiments go to show that the effect of alcohol upon women is much more deleterious to the offspring than the effects of alcohol on men is to the offspring; that is, an alcoholized female has offspring that shows certain degenerations

that the offspring of the alcoholized father do not show to such a great extent. Therefore he suggests it is very probable that we shall find that other deleterious poisons act in the same way as alcohol. It is quite possible that such poisons as aniline, benzol, etc., may show their effects this way, but so far it is not apparent. We have, however, abundant evidence of the harmfulness of lead to women. The English have been so much impressed by the harmful influence of lead poisoning on women, by what they consider women's greatly enhanced susceptibility to lead poisoning, as to pass laws excluding women from certain dangerous parts of the white lead industry, and in some of the continental countries, women have been excluded from certain operations involving the handling of lead. Not everybody is convinced as the English are that women are more susceptible to lead poisoning than men, but there is overwhelming evidence to prove that lead poisoning in women shows itself in the offspring as it does not in men.

We will take three groups of women workers; one group of women employed in lead work after marriage; the second employed before marriage, but stopping lead work at marriage; the third, those perhaps working or perhaps not working, but not exposed to lead; the number of miscarriages, still births and children dying within the first year of life is over twice as great for the women engaged in lead work during marriage than for the workers who have never been exposed to lead; and it is more than half again as great for the women who worked in lead before marriage and then stopped as for the women who were never exposed to lead; and these statistics are gathered from working women so they show the direct effect of the poison. Now, while we have no proof that lead poisoning in the father produces an effect upon the offspring, in human beings, we have experimental proof among animals that it does so that it seems probable that it does in the human father but nothing like as much so as in the human mother. So that we are justified in saying that the lead trades, unless rendered safe, should be closed to women. I say, unless they can be rendered safe. It is not fair to say "if they are not or will not be made safe." On the ground that they are dangerous such an effort was made at the International Congress of Industrial Hygiene—no, for Labor Legislation held in 1910.

The Austrians and the Italians went before that congress urging that the congress adopt resolutions shutting the women out of the printing trade because of the danger from lead. In Austria, as in some other continental countries, lead founding or making of type is part of the printing trade. It is done in the printing shops and is much more dangerous than anything else done in the printing trade, and more founding is done by women than by men, the women receiving a very low wage. The Austrian statistics of the printing

trade show an enormous preponderance of the cases of lead poisoning of women employed there and on the basis of that the Austrians urged that women should be forbidden to work in that trade. The Italians, relying largely on the Austrian statistics, joined with them in the proposal. The British, on the other hand, and the Americans joining with them, maintained that printing could be made a safe occupation for women, that when not a safe occupation for women it was not a safe occupation for men, and the thing to do was to insist upon the abolition of lead dust and lead fumes in printing shops and then they would be proper places for women to work in. That is the plan I think should be followed.

I think it would be a great mistake to shut women out of an industry to which their powers are very well adapted because of the possibility of danger from lead poisoning when it should not be present. It is entirely possible to make the print shop free from lead dust and lead fumes and safe for workers and it should be made safe as well for the men as for the women who may be employed therein. On the other hand there are lead industries which cannot be made safe enough for women to enter. I would not wish to see women enter the white lead industry. They are not employed there now. Nor would I wish to see them employed in roasting of oxides or lead smelting, or employed in shot towers or in the casting of shrapnel bullets, but I think it will be largely impossible for employers to bring them into these industries because they all require the lifting of heavy weights or the pushing of heavy trucks. There is not much danger of women entering these pursuits. Women may be induced to go into storage battery factories as that work is light, but the danger of lead poisoning in making storage batteries is too great and they should not be employed there. I do not know how that trade could be made safe for women.

Now, as I said, the other poisons are not, so far as I know, peculiarly injurious to women, and if women enter industries in which poisons must be handled we must simply see to it that they are adequately protected, and I rather hope and expect that those industries will be better protected from now on because of the entrance of women into them. I think it very probable that greater attention will be paid to cleanliness, to dust and fume prevention, when women are working where men are because of the very characteristic feeling of chivalry on the part of American men which leads them to look after their women employes better than their men. I had a very amusing experience about that when I was up in the Pennsylvania mountains visiting the nitorglycerin factories. There was one in which a small group of girls were employed to handle paraffined card board. They had a very nice wash room to wash their hands free of paraffin. The men handling nitroglycerin, ammonium nitrate, and mononitrotolnol,

had to go out and wash in the icy cold mountain stream that came down through the valley. But I suppose that sort of thing goes on in other factories. I noticed when I was at the rubber works in Akron the girls working in talcum powder had nice wash rooms, warm water, soap and towels. The men who worked in litharge, oxide of lead, lead sulphates and sulphides of antimony, did not have any place to wash at all. I would rather see that sort of thing evened up and I think the more women enter industry the better provision will be made for the men who are working with them.

This business of replacing men in industry by women is, of course, of great importance. I have touched on a very small part of it. It is a question that is not settled; it is one that deserves our best attention, our very grave thought, because if we decide it wrongly the results will be disastrous. We must bring all the knowledge we have to bear upon it at the outset.

CHAIRMAN ROBINS: Dr. Hamilton has very ably outlined that the work the women can do. She excludes two important factors in the distinction between employment for men and women. One is that very important American citizen, the bell boy; and the other is the equally important American citizen, who calls the carriage at the hotel door: and I hope they will both be replaced with women because those are positions which the women can fill as well if not better than the men.

We are now to hear from Major Mock, who is going to speak to us on the subject of the reconstruction and rehabilitation of disabled soldiers.

MAJOR MOCK: Chairman, ladies and gentlemen, before giving the paper which I have prepared in the last two hours I want to say to you that as representatives of the big industries of Pennsylvania here, we are doing as much to lick the Germans as the soldiers over in the trenches are doing; and I want you to keep in mind all the time that what I am saying about the disabled soldier applies to the disabled industrial soldier as well. I did not bring that point out in my paper, but I want you to keep it in mind because certain handicaps of industry need the same reconstruction and rehabilitation which we are planning for the military soldier.

RECONSTRUCTION AND REHABILITATION OF THE WAR INJURED.

By MAJOR HARRY E. MOCK, Surgeon General's Office, War Department, Washington, D. C.

The United States has entered the world war to fight for the same principles which our revolutionary fathers fought for over a century

ago, namely, liberty and freedom. But now it is a fight for the liberty and freedom of the world instead of for one country. The despotism which has ruled Germany and the Central Powers and which under the cloak of "Kultur" has been hiding the barbarism and reign of terror now turned loose on the world, must be stamped out forever more. Peace must not come until the God-given ideals of democratic peoples have replaced the devilish plans of these despots.

In the midst of all this destruction and suffering new ideals are being evolved. Great constructive economic and social problems are being met and solved within the space of a few years. Reforms which, without the war emergency, would have taken generations to establish, are now naturally fitting into the human program of the entire world.

The nations had become prodigal and wasteful,—now they will become nations of conservation.

From the great calamity of war will come these by-products of good,—by-products of achievement never before realized.

This epoch making conference of employers and employes, of accident prevention men, of specialists in industrial sanitation and hygiene, and of medical advisers of industry presents an opportunity of telling you of one of these useful by-products of war which especially concerns all thinking men and women.

The great economic loss of man power which the world is sustaining as a result of the war is forcing every nation to salvage all disabled men and to train them to again become useful and efficient units of society.

This salvaging process is called the reconstruction and rehabilitation of the men handicapped by war service. By this we mean the application of every known medical or surgical procedure to the end that the greatest functional restoration may occur in the injured man, and to restore him as a useful member of society. In other words, rehabilitation is the adopting of every practical method of mentally and physically training the disabled individual so that he can again be independent, can marry and establish a home, or provide for his present family, and again become a peaceful, law-abiding, happy and contented citizen.

Too often after war service the soldier, especially if he is disabled, returns home and adopts a course of retrogression. At first he is feasted and treated as a hero by his family and friends, then he becomes a pensioner and is content to live on his pension. Intemperance and bad habits naturally overtake him. Unless the government establishes preventive measures, it will be taking productive citizens into the army and returning them as parasites to society.

To prevent such deterioration in our young manhood, and to meet the fierce economic pressure of supplying the necessities of life, as well as the necessities of war, we must plan to utilize every ounce of energy

and working ability in our men and women, be they whole or disabled. Our Government is arranging the most comprehensive program for the reconstruction and rehabilitation of our war cripples.

In the beginning this is largely a medical and surgical problem and it has therefore been placed under the Surgeon General of the Army. Later on it will become a problem of proper vocational training, of re-educating the man so disabled so that he may learn a new occupation; of properly placing him in civil life where he will be most efficient; all of this a problem of friendly and brotherly supervision over the returned and injured soldier, supplying hope and courage to the day when he again can carry his own burdens.

Other nations are doing this, but because it was forced upon them in the midst of war their reconstruction programs are not as comprehensive or efficient as ours should be made.

As a part of the vast preparedness program which our Government has undertaken we have the opportunity of including every detail in our plans which will be of any value in rehabilitation.

In the trenches in the first-aid stations our reconstruction of the wounded from a medical and surgical standpoint begins. Here by preventive surgical methods and by the earliest possible medical ministrations to the wounded we will save thousands of lives for later rehabilitation. In passing, it must be stated that surgeons in the front line trenches should be classed among the greatest heroes of this war.

As soon as possible these disabled men are transported to the base hospitals and here by the most skilled medical and surgical attention further reconstruction takes place.

Many of these injured soldiers will be able to return to the fighting line but many others will be so disabled that they must be returned home to re-enter civil life.

We are preparing for these handicapped men in this country. Sixty large general and special reconstruction hospitals are being or are to be established throughout the country. In these hospitals the men will continue their convalescence. Secondary operations will be done to remedy deformities, new joints will be made, tendons and nerves will be spliced, bone grafting will be done where necessary, and every scientific method known to medicine will be employed to restore these men to usefulness.

In connection with these hospitals there will be massage rooms, gymnasiums, and physical appliances to aid in developing muscles, nerves and tendons which have been restored. There will be shops for the manufacturing of artificial legs and arms. The handicapped men will be thoroughly trained in the use of these artificial legs and arms. Many of the present successful cripples in this country have already volunteered their services to teach the handicapped.

As soon as the men are able they will be placed in vocational schools to be established, or into already established schools, for purpose of teaching them some useful occupation. The individual desires of each, considered along with his handicap, will be the basis for deciding on these occupations.

Others will be placed directly into industries, trades, commercial life and on the farms to receive their practical training, but will be kept under supervision until their re-education is completed.

This is a short resumé of our plans for rehabilitation. In developing the work a great amount of statistical study is necessary. We must know what work the handicapped of the country are now doing, what the economic demands of each occupation are, and what positions will be open for these handicapped.

The Pennsylvania Department of Labor and Industry through its Division of Industrial Hygiene and its Employment Bureau has agreed to make an intensive study in this state which will help us to solve these problems for the entire country. Our appreciation for such co-operation cannot be expressed, and I want to personally thank each of you here for the assistance which I am sure you will give.

CHAIRMAN ROBINS: It would certainly seem that Pennsylvania is doing her duty through her great munitions plants and factories and through all kinds of channels, through the Y. M. C. A. and the Red Cross. Pennsylvania is never called on that she does not respond.

We are now going to hear from Mr. Jacob Lightner, Director of the Employment Bureau of the Department of Labor and Industry.

MR. LIGHTNER: Chairman, ladies and gentlemen: As Major Mock has told you, the State of Pennsylvania usually does things. He said it would be impossible for them to make the study of the handicapped workers at Washington, having so much to do now, and therefore they have turned for assistance to the State of Pennsylvania, the Keystone State. Those of you who are here today and have heard the talk of Mr. Felton and our Governor upon the Keystone State and the necessity for our manufacturing plants to keep going as they have never done before, will realize that we have a great deal of work on our hands. Major Mock came to Harrisburg to take up with us the question of what is to be done for returned soldiers crippled in war service. I am not going to keep you very long but will simply outline what we are trying to do. It is not what our department or our personal effort is going to do for them but what you employers and employes are going to make it possible for us to do. No single man can ever take credit for any great deed because such a deed must be the collective work of a group of people. The co-operation of active interested workers makes it possible to succeed in anything and especially in the work in which we are now engaged.

You know that in our cantonments we have eighty thousand men, Pennsylvania men under arms. It will be only a short time until those boys go across to France and it is only going to be another brief period until some of them are wounded, and later return home crippled. These men will have to have special individual attention on their return and the best possible medical and surgical aid, rendered

them to enable them to get back into suitable occupations. We were proud of them when they left us and we want to show them by our efforts that we are just as proud of them upon their return home. We have gotten up a questionnaire that we are going to send out to every manufacturer and every employer in the State. It is as follows:

MAJOR JOHN PRICE JACKSON
COMMISSIONER
ABSENT ON LEAVE—WAR SERVICE
LEW R. PALMER
ACTING COMMISSIONER

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF LABOR AND INDUSTRY
HARRISBURG

January, 1918.

EMPLOYMENT OF DISABLED SOLDIERS,
SAILORS AND MARINES.

Employers of Pennsylvania.

Gentlemen: One inevitable effect of the war will be the disabling of officers and enlisted men of our armed forces by either wounds or disease.

It is the purpose of our Government to establish a number of hospitals in which the reconstruction of disabled soldiers, sailors and marines will be accomplished so far as is possible and where artificial appliances will be fitted to these cripples.

When these men are physically able to return to the ranks of industry it is absolutely essential that they be given suitable employment.

Experience has shown that many occupations in varied industries are now filled in a thoroughly competent manner by individuals who have had the misfortune to be handicapped as a result of either injury or disease.

In order that the State of Pennsylvania may co-operate and be of maximum service to the Federal Government it is requested that you answer, as a patriotic duty, to the best of your knowledge, all questions on the accompanying questionnaires and mail them to the Bureau of Employment, Department of Labor and Industry, Harrisburg, Pa.

Corporations finding these blanks inadequate for their replies may obtain additional copies of this form from the Department of Labor and Industry at Harrisburg.

Your co-operation in this patriotic measure will be deeply appreciated by

Yours faithfully,

LEW R. PALMER,
Acting Commissioner.

IF YOU ARE NOT AN EMPLOYER OF LABOR, PLEASE PASS THIS FORM TO AN EMPLOYER.

Form Q 1

PENNSYLVANIA DEPARTMENT OF LABOR AND INDUSTRY

Bureau of Employment and Division of Hygiene and Engineering

in co-operation with
PENNSYLVANIA COMMITTEE OF PUBLIC SAFETY
Department of Civilian Service and Labor

QUESTIONNAIRE ANTICIPATING PLACEMENT IN PENNSYLVANIA INDUSTRIES OF DISABLED SOLDIERS RETURNED FROM WAR SERVICE. PLEASE INDICATE NUMBER OF HANDICAPPED MEN YOU COULD EMPLOY AND FORWARD THIS REPLY TO BUREAU OF EMPLOYMENT, DEPARTMENT OF LABOR AND INDUSTRY, HARRISBURG, PA.

Name of Firm.....

Address.....

Date.....

The Surgeon General's Office of the United States Army is arranging for the reconstruction and rehabilitation of men disabled and impaired in health in war service.

Each disabled soldier will be equipped by the government with every suitable appliance to bring his efficiency to a maximum. He will receive the necessary treatment and training to adapt him for selected employment.

DISABILITY		TYPE OF WORK OR MACHINE OPERATION	Number of such positions	REMARKS
Loss of fingers	One hand			
	Both hands			
Loss of hand at wrist	One hand			
	Both hands			
Loss of arm below elbow	One arm			
	Both arms			
Loss of arm at shoulder	One arm			
	Both arms			
Stiff finger joints	One hand			
	Both hands			

Stiff wrist joint	One arm			
	Both arms			
Stiff elbow joint	One arm			
	Both arms			
Stiff shoulder joint	One arm			
	Both arms			
Partial loss of foot	One foot			
	Both feet			
Loss of foot at ankle	One foot			
	Both feet			
Loss of leg below knee	One leg			
	Both legs			
Loss of leg at knee	One leg			
	Both legs			
Loss of leg at middle of thigh	One leg			
	Both legs			
Loss of leg at hip joint	One leg			
	Both legs			
Stiffness of lower extremities	One leg			
	Both legs			
Blindness	One eye			
	Both eyes			
Deafness	One ear			
	Both ears			
Loss of speech				
Repulsive facial disfigurements				
Hernia				
General health impairment				
Which would prevent heavy manual labor				

Form Q 2

PENNSYLVANIA DEPARTMENT OF LABOR AND INDUSTRY

Bureau of Employment and Division of Hygiene and Engineering

in co-operation with

PENNSYLVANIA COMMITTEE OF PUBLIC SAFETY

Department of Civilian Service and Labor

The purpose of this questionnaire is to ascertain the positions now held by disabled men in the State of Pennsylvania. This study will aid the United States Government in its plans for training the soldiers disabled in war service. Kindly fill in answers for every diseased or crippled man working for you. Additional copies of this form will be furnished on request.

PLEASE FORWARD THIS REPLY TO
BUREAU OF EMPLOYMENT, DEPARTMENT OF LABOR AND INDUSTRY, HARRISBURG, PA.

Name of Firm.....

Address.....

Date.....

Nature of Disability.	Sex.	Age when Disabled.	Present Age.	Previous Occupation.	Present Occupation.	Degree of Success.	Present Weekly Wage.	Education Previous to Injury.	Education or Special Training for Present Occupation.	What Artificial Appliance is Used.	Remarks. (Nature of work and any interesting features in case.)

CO

It provides mainly for the furnishing of information as to the type of work or machine operation that employers will give the crippled men on their return from the war and the number of such positions available. There is provision made for remarks. I feel that when we send this questionnaire out, we shall receive many, many questions that we shall have to answer in return, and we shall endeavor to do this to the best of our ability.

In addition to this large questionnaire, we are going to send you another small one. The small questionnaire states: "The purpose of this questionnaire is to ascertain the positions now held by disabled men in the State of Pennsylvania. This study will aid the United States Government in its plans for training the soldiers disabled in war service. Kindly fill in answers for every diseased or crippled man working for you." The questions are "Nature of Disability; Sex; Age When Disabled; Present Age; Previous Occupation; Present Occupation; Degree of Success; Weekly Wage; Education Previous to Injury; Special Education or Training for Present Work; Artificial Appliances Used; Remarks as to Success or other Interesting Facts." This questionnaire, we feel, is a very vital and important one, which should be sent back to us as fully filled out as possible, because it is partly through this questionnaire that we are going to be in a position to aid the United States Government in arranging its system for the education of the disabled soldier upon his return. We can then, with your assistance in returning to us this questionnaire filled out, know just what kinds and classes of men you can take care of.

I remember very well when I was a little fellow that it was a common sight to see injured men working. Then the immigration to America became so great that the employer became just a little bit choicy as to what kind of men he took because of the vast number of men for each position. Later on, in years, it became apparent that the man who was minus one arm or one leg was an unworkable man. That is not true. We have had a great deal of experience already in the placement of these disabled persons. Through the kind work of the ladies of the Emergency Aid, of which your worthy Chairman here today was one of the committee, they placed in our Philadelphia office a man whose work was simply that of finding employment for these disabled people. It is not a piece of charity work either because the crippled fellow who wants a job, does not want charity and you would be surprised at the number of these good fellows that we put to work, how well they do their work, how independent they feel. Here is a class of people that once you put into positions appreciate this one point, "If I lose this job where am I going to get another?" Now you or I who are sound,—if we lose one job we have an opportunity of going and getting another; but there is the cripple who cannot shift back and forth so well, but you have in him a man who appreciates his position and a man who will bring out the maximum work of the maachine in whatever position you put him. It will be a wonderful aid to us if you will kindly fill out these questionnaires fully. I know that it is going to be some work, but at the same time we feel, and we know that you feel, that the boys we are preparing to aid deserve all we can do. I thank you.

CHAIRMAN ROBINS: Dr. Otto P. Geier, Cincinnati Milling Machine Company, Cincinnati, Ohio, is present and will continue the discussion.

DR. GEIER: Chairman, ladies and gentlemen: Before saying a word about Major Mock's paper I want to say for the five or six industrial surgeons who came from Ohio to this conference yesterday that we received a great inspiration from that meeting. I cannot help but congratulate you in Pennsylvania on this magnificent work that you are doing, and congratulate you on the leadership that you have here in Pennsylvania for the efficiency and welfare program. We sometimes

feel rather smug in Ohio about some things but I want to tell you even though we nearly went dry, except by eleven hundred votes, we have a great deal to learn from Pennsylvania. We are in the habit of thinking of Pennsylvania as a very badly political-ridden state and there are rumors even of some curious things having been done in the building of this very wonderful structure, but if mistakes were made back in those times in Pennsylvania I think Pennsylvania is living them down very wonderfully as exhibited today in this meeting, because these are meetings that spell wonderful things for the future as I see them.

Speaking of rehabilitation, I have seen considerable rehabilitation take place in Major Mock since he is on the job in Washington. He has become so enthused with his ideals of reconstruction and rehabilitation that he eats and sleeps with them and they have really made a remarkable change in his character. I personally believe that, we, as social workers, as doctors, as safety men, as men in industry, as employers, as managers, can actually welcome this rehabilitation program because it promises to bring something into our lives that we need very badly. In consideration of the maimed and injured in war I believe we can look forward to an entirely different social point of view in all of us. I can actually hope that much of the misunderstandings, the bickerings, the hard feelings that exist between the employer and employe may largely disappear through the consideration of these big social problems which we must meet and will meet after the war and will meet during the war for that matter. Doctors have been misunderstood, industrial surgeons have been misunderstood by laboring men, employers have been misunderstood by laboring men, the doctors have been misunderstood by employers, and all because we have not had sufficient points of contact by which we all knew just how honorable the other is. And so, personally, I believe that out of this very program that has been presented to us this afternoon—and it does present in no uncertain way the horrors of war—there may come possibly a consideration of the human element in each of us to a degree that will make for much good.

I believe that it is the business of all of us to study this rehabilitation program very carefully and to take a more definite part in it. A good many of us as doctors, as employment men, as individuals, have rather scoffed at the social worker; we shrugged our shoulders a little bit; we thought that simply soft stuff. Now, as a matter of fact, the war is going to make social workers out of us all and when our soldiers come back from the front and it becomes our business to fit them for industry we will be called upon for a great deal of intelligence that the social worker has been trying to give his work right along, and I, for one, am glad to see that this Government is not lagging behind but looking forward with its rehabilitation program. And it needs to have the co-operation of such groups as this to make this piece of work stand out among all nations.

CHAIRMAN ROBINS: The subjects of discussion this afternoon are of the most vital importance and it is advisable that both Dr. Hamilton's subject, "The Possibilities and Limitations of the Employment of Women in Industry," and also this vital question of the rehabilitation of the soldiers' should be placed before us from many angles. The subject is open for discussion. Does any one want to ask a question of Dr. Hamilton on the subject of women in new industries which they are taking up? She has given us the subject of lead poisoning and of the turnover of women in industries. They are both enormously important at the present time and I am sure some of you have very strong feelings on the subject of women in the new activities in which they are going to take part.

T. H. CARROW, Safety Inspector, Insurance Department, P. R. R. Co., Philadelphia, Pa. I would like to ask the Doctor a question. I gather from what you said that you anticipate that danger might arise from placing women in industries, due to hard work and overwork.

DR HAMILTON: I suppose that the exercise of new muscles and the making of fresh fibre will have the same effect that athletics will have. A girl who is stroug will be made stronger by athletie work and the girl who has very little strength, no extra strength to call upon, will not be made stronger by athletic work. That is why in our gymnasiums and institutes of learning we have girls examined before they do athletie work. That is true, I suppose, of men too. If the girls who enter industry are given hard work, work that is not too hard, they will grow strouger. If given work too hard for them, they will be less strong than wheu they went into it. That is the answer to it. That goes back to what I said, that the work of the industrial physieian is going to be very necessary in the employment of women iu new oecupations. You will have to have a medical person checking up on your womeu in employment.

CHAIRMAN ROBINS: Is there any further diseussion?

DR. BOLTON, Temple University, Philadelphia, Pa. I would like to inquire of Dr. Hamiltou what sort of test the physician ean use and what tests have been used to show that night work is harder on women than on men and that long hours seem to weigh more heavily upon the women than they do upon men? I am engaged in the business of testing people and I would be very glad to have those tests, if such there are, offered here for eonsideration by the delegates to this association.

DR. HAMILTON: What I had in mind was the experience of the older eountries in whieh night work for women has been so much more exteusive than here and in whieh they have gathered statisties as to sickness and absenee from work on aeount of siekness, as we have uot over here. It is beeause of that as I remember—and you ean find it all in Joseph Goldmark's Work eutitled "Fatigue and Effieiency." It was because of the statistics of siekuess among men aud womeu employes that the deeision was arrived at that night work is too hard for women and that long hours are harder for women than men. That is all I eau tell you. I do not know of auy tests that we can apply.

Siduey J. Ashe, General Electrie Company, Pittsfield, Mass.

A good deal has been said about the reaetion from putting womeu to many tasks. I think we ought to emphasize in a way a little of the advantages whieh you might get from such a thiug. For instauee, we are all very much interested in the safety movement aud we made some very interesting studies to find out what the relative tendeneies were for aeeidents to men and women on the same kind of tasks and we found that the average mau gets hurt three times as frequently as the average woman, due to the fact that the women are naturally quieker thau men and they are a lot more eareful thau meu are. I think you will find that there are undoubtedly other industries in whieh the experienee has been similar to ours. For instance, at Pittsfield, we have 7,200 employes, and 1,200 of these employes are women, and these tests I have in miud were made ou the same sort of tasks, that is, both the women and men were engaged in the same oecupations, winding small transformers and winding small motors; and I think that there are undoubtedly other experiences that eould be meutioned along the same lines. We are thinking of ways to reduee aeeidents and yet here in the mere matter of employiug women you reduce your aceident ratio to a great extent, simply due to the natural alertness and quickness eharacteristie of the women.

CHAIRMAN ROBINS: Will some one else ask a question or give further experience?

Dr. Patterson asked if there was any discussion of Major Mock's paper on the rehabilitation of soldiers. Will you not give whatever assistance you can to us on the question of the rehabilitation of soldiers? Has any one any suggestion to make from their previous experiences on the employment of crippled men which will give any light on this subject of the future of the men coming back in the very pathetic condition which we all will deplore when it happens?

I may say from personal experience with regard to handicaps in Philadelphia that many of these men have already been in factories and are good employes, due to the fact that the men keep their jobs and are more reliable. It means that the man who has had an accident in a factory is full of experience, he is a skilled employe and he has as good a head and as good a will after the accident as before and for that reason when he gets back in the factory he does not go in as an incompetent or inexperienced man.

DR. PATTERSON: Mr. Chairman, I should like to state that the Department of Labor and Industry welcomes correspondence from all the manufacturers of this state upon the subject of the placement of handicaps. We are prepared and shall send out—the Bureau of Employment and the Division of Industrial Hygiene, together—this questionnaire to all of the many thousands of persons whose names are on our mailing list. We urge upon the manufacturers if there is anything about this questionnaire that they do not understand, not to hesitate to write to the Department for further information.

It has been estimated by competent authorities that if this war goes on, as there seems every prospect of its doing, that we shall have the necessity in this country of taking care of five hundred thousand cripples in some way or other at the conclusion of the war. It is only fair that those men shall be given the opportunity to earn a livelihood in industrial work and this Department is going to leave no stone unturned to try to place these men in industries where they may do a fair day's work for their employer and earn a livelihood for themselves and their families. We are prepared to place at your disposal the record of what other industries in this state have been able to do in the placing of these handicaps. If you will write to us we will tell you in what kind of positions in industry these men are now employed and they are all making good. Simply as a sample, it has been found that in certain occupations where there is a tremendous amount of noise connected with the operation, as for instance, in the manufacturing of boilers, in the operation of loading the bursting charge into the base of the shrapnel shell by means of a jolting machine, in other industries where jolting machines are used, that the man who is totally deaf can go into that occupation and become a much more efficient worker than the man who works in a similar occupation with good hearing. I simply cite that as one of a number of instances which we have at our disposal and which we are prepared to place in the hands of all manufacturers of this state, so that possibly we may be able, in a measure, to indicate to you where in your particular industry the man who is handicapped will prove a most efficient workman.

The State of Pennsylvania, as our Governor said this morning, is in the very forefront of this fight to win freedom for the world and I know, from a knowledge of many years of dealings with the manufacturers and labor leaders of this Commonwealth, that after this war is over they are going to keep on and do their bit in seeing that the boys who come home maimed and crippled have the chance to earn their livelihood.

CHAIRMAN ROBINS: I think we have had this afternoon an illustration of one of the great developments of the war, the meeting of the changed conditions, the suiting of the man to the job which is, after all, the secret of success in most employment.

We have now with us a woman who has done greater work for the saving of her own sex from misery and unfortunate conditions than any other woman in this country. I am only too glad to present to you Mrs. Florence Kelley, Secretary of the National Consumers' League, of New York City, who will address us on the subject of "The Problem of the Married Woman in Industry."

THE PROBLEM OF THE MARRIED WOMAN IN INDUSTRY.

By MRS. FLORENCE KELLEY, Secretary, National Consumers' League, New York City.

Chairman, ladies and gentlemen: I speak this afternoon in two capacities, as General Secretary of the National Consumers' League of which the Secretary of War has recently been elected for the third time to the office of President; and I also have the honor to serve as its Secretary to the Board of Control of Labor Standards for Army Clothing, created administratively by Secretary Baker. It is the duty of this Board to enforce the terms of the contract used by the Quartermaster General so far as regards the labor conditions under which army clothes are made. The Board is primarily to stabilize the manufacture of uniforms; that is its first task. It is to remove, as far as this can be done administratively, all causes of friction, all causes of strikes which may delay the clothing of the men in the trenches and camps, and on the ships. It is charged with the duty of fixing minimum wage rates, and enforcing the federal and state laws in regard to safety, sanitation, and hours of labor in the needle trades, so far as the Federal Government is, through its contractors, the indirect employer of labor in that one area of industry.

This Board was created after a month's private inquiry into homework in the City of New York in the manufacture of army coats, overcoats, and trousers, by a committee composed of the same persons, who later composed the Board. The creation of this Board followed the discovery by this committee that army clothing was being made in tenements where, for instance, a diphtheria sign of the

Board of Health was on the door, and inside were uniforms with the tag "U. S. A." firmly sewed into the garments. Men were hawking uniforms about the slums of New York City crying "Uniforms to sew" just as other men in the same slums were crying, "Fresh fruit, potatoes, tomatoes."

The work of the Board began in New York City because roughly one-half of the army uniforms are made within the boundaries of that City, one-quarter in Philadelphia and Baltimore, and about one-quarter scattered from Portland, Maine, to New Orleans; and from St. Paul to Tacoma and Los Angeles.

The creation of the Board affected, immediately and directly, married women in industry. It appears that the sweating system, as we have it today, is an inheritance from the Civil War. Uniforms have been made continuously in the homes, for the half century since the Civil War. Throughout that long period, contractors represented successfully that the shortage of loft space and equipment was so serious that, unless the tenements and the petty contractors between the tenements and the big contractors could be brought into operation, there would be great delay in furnishing uniforms. This primitive and preposterous old survival of industry as it was in 1864 has continued because of those representations. The State of New York has found this usage one of the minor but continuing obstacles to its attempts to deal successfully with tenement house manufacture.

The Quartermaster General, during the summer of 1917, changed the old specifications requiring certain work on army uniforms to be done by hand which, in the civilian trade, had been done by an appropriate machine for the past twenty years. When a peremptory order was given that no more garments were to go out into the tenements, it became necessary for one single manufacturer—by no means the largest in the trade—to rent additional loft space for which he pays nine thousand dollars a year, to equip it with machines and bring back thousands of garments from the tenements where they were awaiting hand finishing. On so great a scale had been the leak.

The withdrawal of uniforms from tenements was primarily in the interest of avoiding, during this war, epidemics such as occurred in the Cuban War, when measles and other disorders from the slums of New York were carried to our men (if it be true that diseases can be carried in uniforms). While that possibility cannot be proved with regard to all infectious and contagious diseases, it is the intention of the Secretary of War that no risk shall be taken and no exposure to improper and filthy surroundings tolerated. An instantaneous effect of the announcement of the withdrawal of those goods from the tenements was that one of the largest and most enlightened

employers from another city opened the first thoroughly modern factory for the production of uniforms that has existed in New York City. It has every latest device for expediting manufacturing. It employed on opening two thousand workers.

For the first time, the factories in New York City in which men and women make uniforms are gradually being made safe against fire. The City Bureau of Fire Prevention expedites inspection of uniform factories and shops for the Federal Government because, aside from all the hardships and suffering that it inflicts, every fire interrupts and demoralizes the work. It is a painful discovery that so much of this work is done in fire traps that skilled workers have shunned, on account of lack of safety, many places in which work was offered, and this at a time when thousands of needle workers skilled in the men's clothing trade have been walking the streets without work.

As General Secretary of the National Consumers' League, it has been my duty for almost a quarter of a century to get what light I could on the subject of married women in industry. When Commissioner Jackson asked me to speak on the work of married women, the subject presented itself to my mind from three points of view: *First,* married women ought not to be considered as a unified mass of workers. I cannot see any reason why, when a woman's children are grown, if she has strength and leisure,—and as a rule older American women have perfectly available intelligence, strength, and leisure—she should not engage in any occupation which she sees fit to select. That seems to concern no one but these married women themselves.

Second. It is notorious, however, in this country, as in England, and on the Continent that, wherever mothers of young children are earning their living, or a share of their living, in industry they are a fearful drag upon the men in that industry. Where are the worst wages? Where was it first necessary to restrict night work and the hours of labor for adult women? In textile industry, the tobacco industry, the sweated needle trades, in all those occupations in which during the past one hundred years in England, and the past sixty years in America, the number of married women has been slowly and steadily increasing in spite of our investigations and legislation.

It is a disgrace to us that as a nation we have never, until the Federal Children's Bureau began within five years to make this inquiry, had sufficient interest in the number of our children who died in infancy (how many died at birth, how many in the first year, how many in the second year), to have any study of infantile mortality made by any public body, national, state or municipal. Now we have thanks to the Children's Bureau, returns from three industrial cities,

Johnstown, Pennsylvania, Manchester, New Hampshire, and by contrast with them the prosperous little city—almost a suburb of New York—Montclair, New Jersey. There was also a study made by a different federal agency, about the same time, of Fall River, Massachusetts. The results of these four studies are striking in many ways but most striking in this, that, as the earnings of the father rise, the death rate of the little children falls, and as the earnings of the father fall, the death rate of the little children rises. And the general death rate of Fall River appears to be the worst for any city of its size in this country. In Manchester, New Hampshire, and in Fall River, Mass., many women work in industries. They go out of the homes into the textile mills and the wages are down,—as the wages are always down where wives compete with their husbands,—and the babies die.

The babies, so far as we can generalize from these recent studies, seem always to die when the family income is down; but we cannot say sweepingly that this is always and everywhere true because we are so disgracefully ignorant that we have not the facts on which to base generalizations. Certainly the warnings from cities so unlike as Johnstown and Montclair and Fall River and Manchester, are loud and shrill. They teach us first to withdraw, as far as we can, by pressure of public opinion, by the organization of the women themselves, and by legislation in certain restricted ways, the mothers of young children from competing in industry, as industry is today, with their husbands, brothers, and the other men of the community.

I have spoken briefly of withdrawing army uniforms from the homes. That was in the interest of the soldiers, but it was also in the interest of the homes. These same studies of the Children's Bureau seem to show that it does not matter very much to the children and their chance of life whether the mother goes out of the home and works, or whether she stays at home and works, if she works and lives in dire poverty.

For more than five and twenty years I have lived among the very poorest immigrants who come to this country, the Italian and Jewish immigrants; in Chicago for eight years and in New York for nearly twenty years. There we see the women taking work into the homes deliberately to eke out the earnings of the men, and the effects upon the children are fearful—I can speak as an eye witness of that. The children live in the streets; they are ill fed; their homes are crowded and comfortless. The children of the home working mothers in industry appear to me, after five and twenty years of closest neighboring, to be utterly pitiable children. It is no benefit to a child to enable its mother to stay at home with it if, in the process, the child is cast out into the street because the mother is too busy

to have it bothering around. But if the children are little girls they, more than the little boys, are pressed into industry themselves.

I do not believe it is a suitable thing that industry should invade the homes of married women. It is my confident hope that since that state which has been the seat of the longest and greatest invasion of the home by industry, the State of New York, has now given to women the power to say what they wish to have done in industry, we shall get different results by our future legislation on tenement home work.

I have not spoken of the effect of work upon the health of married women themselves. Again, I think we have to make a division, while I do not see any reason why older women should not decide for themselves what they will do, I do believe that the community in war time, when older sons are to be sacrificed by hundreds of thousands, can leave the mothers of families of the very poor to decide whether or not they will, at the risk of their health, leave the young children to charitable care, or to the care of negligent neighbors, or of utterly unfit little sisters and brothers, while the mothers get into industry. There could, I think, be nothing more perverse in the name of patriotism than any appeal which should take mothers away from young children, or call from the homes mothers of future children, and subject them to the strain of industry as industry is now.

Again, we have no such mass of facts as England, France, and Germany have accumulated through their sickness insurance statistics. The Federal Government since 1880 has locked in its vaults masses of information concerning the domestic relations of working people in this country. But the American people have never cared enough to know the facts to insist that they shall be printed. We are all supinely ignorant as to the mortality of working mothers of young children, as to their morbidity, as to the output which they are capable of contributing to industry.

Third: There has been in recent years much study and discussion of sickness insurance. One feature which has been strongly urged is a special insurance provision for mothers of young children who are at work in industry. It is argued that as two states, New York and Massachusetts, forbid women to work for a certain number of days before and after the birth of a child, it would be only just to recompense them by an especial gift of money at that time to enable them to take proper care of themselves and to have their minds at ease. That is an entirely sentimental proposal, though it will doubtless sound very harsh and blunt to say so. I have lived among the people upon whom the pressure of life is the most cruel, and I should be filled with apprehension if such a provision became the law in New York. For it would put upon the most sordid husbands the temptation to send the wife into the factory for the sake of this

cash bonus. The tendency grows all the time for husbands to send their wives into the factories. That is not the old American tradition. It is the Southern States tradition, I am very sorry to say, but not the general American tradition at all, that mothers of young children should take their share as a regular thing in the earning of the family income. It would be a cruel thing to establish by legislation a bonus for those fathers who so gaily drink up the wife's earnings, and those who so meanly sit in the basements and gamble for pennies, for fathers who are eager to retire at thirty-five —as many Italians in the north and many American born men in southern mill villages are eager to retire at thirty to thirty-five years of age—and to allow their wives and children to support them thereafter. If we are going to insure mothers, let us include the wives of all working men. If we are going to give some slight increase to the family income, let us give it to the wives of all working men. Let us not single out the most sordid and most squalid, and put a premium on those mothers going into industry.

We have heard this afternoon of the possibility of great injury to women in the shift which is taking place before our eyes and is growing greater every day. I think our states cannot adequately deal with that. There will be only twelve legislatures sitting this winter. It will be a year before many of the legislatures will sit, and four months more before the laws they pass can take effect. In the meantime, whatever injury is coming will have sixteen to eighteen months to develop.

Meanwhile there is great hope in one new area of industry. What the Secretary of War has done in the restricted field of the manufacture of uniforms can be done again, by the stroke of the pen, through the whole field of the manufacture of munitions, and airplanes, in the cotton mills, and the woolen mills, and in food production. As it is now necessary for the contractor who undertakes to deliver a hundred thousand overcoats to agree in writing beforehand that he will pay prescribed wage rates and will allow his women employes to work only within prescribed hours, doing all this in the interest of stable industry,—I believe, all the contractors in all production for the Government can be brought to do precisely that same thing by this administrative method.

In closing I ask your serious consideration whether it is not in the interest of stable industry, for the largest uninterrupted output in every field in which output is most necessary, that this administrative method should be developed, leaving to legislation by the states all that vast area of industry which cannot be dealt with in this way?

CHAIRMAN ROBINS: Whenever Mrs. Kelley stops talking I wish she would begin again. Will you take part now in the general discussion of this very important serious question. I am sure many of you here employ women or at least represent one and will want to talk to Mrs. Kelley. We are very fortunate in having here to talk to, such a representative of the Secretary of War as we have at the present time in Mrs. Kelley. Are there any questions to be asked on the important subject of Mrs. Kelley's address on "Married Women in Industry," particularly under the new Act signed by Secretary Baker? Maybe you will have some statement to make or some discussion of the subject. I think it is most important that we get all the knowledge possible from this convention on this important subject because it is one which will arouse a great deal of antagonism on the one hand and endorsement on the other. We must have both sides to know how you feel about it, not only because Mrs. Kelley can possibly answer whatever questions you ask but you may offer suggestions which will be of future value.

J. STANFORD BROWN, Supervisor of Labor, Safety, and Welfare, The Carpenter Steel Co., Reading, Pa. I would like to ask Mrs. Kelley whether there are any figures showing relatively the number of married and unmarried women entering industry?

MRS. KELLEY: No. I am very sorry to say that taking the country as a whole we have no such figures, and we have only here and there in special industries the individual inquiries, of which the most important are these little studies of infant mortality to which I referred. There is a great mass of information with regard to the domestic relations of wage earning people collected at every census but it is as yet not compiled.

CHAIRMAN ROBINS: Are there any other questions?

DR. BOLTON, I would like to ask Mrs. Kelley if there could not be a study made as to the fundamental endowments or natural strength of those women, who, with families, are required to enter into industries such as making uniforms or clothing in their homes? That there may be here a situation something like this: That these women whose children are dying in infancy are, after all, fundamentally weak; that they lack natural strength and endowment in comparison with the better class of women living perhaps in better homes and getting better wages; after all, does not the better wages simply correspond to the better endowments?

MRS KELLEY: That is two questions at least, is it not?

DR. BOLTON: Yes.

MRS. KELLEY: First, whether it cannot be possible to make a study of women wage earners: Well, of course, sooner or later we shall have to come to making a study of all the wage earners. Now the people whom we physically examine on an enormous scale and with minute care are the youth of the nation who are in very great numbers, so far as we can see, about to go forth to death and disability; but sooner or later, under the pressure of the competition that is coming after the war, we shall have to know with regard to industry, as a matter of industrial life or death of the nation, the fitness of the men and the women, the youth and the girls who go into industry. It is unbelievable that we have been so reckless and so rash as we have been and there is no doubt in my mind that the relative failure of our crusade against tuberculosis is largely accounted for by the failure of industry to weed out before entering the indoor occupations those young people who are now being put out of the army but who are allowed to go pell mell into indoor industries with no questions asked as to the future effect upon their incipient diseases which no one even discovers.

I think my answer has to be a very sweeping one, that it would be quite a dreadful thing to deal only with women in their homes who are asked to take work into the home. It is a huge national task that confronts us. As to the other question, the Chief of the Children's Bureau, Miss Lathrop, raises that question in each of the Monograph Studies of Infantile Mortality; how far these things interrelate, how far the children die because the father's wage is low, and where the father's wages are high, how far that is coincident; and how far the wages contribute to the physical incompetence of the father or mother. Now, of course, it is apparent that the children of drunkards have a slight hold on life and that the children of tubercular parents have a slight hold on life; and then the children with those diseases about which we have been so loathe to know anything in this country, those children have a slight hold on life. But there is the obvious fact that as the wage is low, and the wage is always low in the cotton industries and tobacco factories—I do not mean the cigar factories—I mean the tobacco factories —it is always low in those areas of the needle trades in which the woman in her home competes with the man. I believe it is very largely because we have allowed the mothers and the unorganized children to compete in industry unrestricted against the normal bread winners.

CHAIRMAN ROBINS: Is there any other statement or question for discussion on this question, anything more you care to ask or find out about it?

I am instructed to tell you that the evening session begins at eight o'clock and that the hope is expressed that you will all be here. General Lewis T. Bryant, Commissioner of Labor of New Jersey, will be here and preside this evening.

I want to thank you for the kind consideration you have given me this afternoon and for all the interesting aspects and sidelights upon the subject presented. The meeting is adjourned.

WEDNESDAY, NOVEMBER 21, 1917.

Evening Session—8 O'clock

Chairman, GENERAL LEWIS T. BRYANT, Commissioner, Department of Labor of New Jersey, Trenton, New Jersey.

ACTING COMMISSIONER PALMER: I call the evening session to order and I will ask Dr. Patterson to introduce the Chairman of the evening.

DR. PATTERSON: In all the Commonwealths that are adjacent to the State of New Jersey it has been known for years that the administration of the laws of New Jersey or as we call it, "Jersey Justice," has become almost a proverb for efficiency. We all know that no matter what the laws in any state may be it is the way in which those laws are administered that results in either good or bad labor conditions. During the past fourteen years, the State of New Jersey has had the good fortune to have as its Commissioner of Labor, General Lewis T. Bryant, who, by the splendid quality of the work that he has done

in the fire prevention and in accident prevention, has carried the fame of that Department of Labor everywhere throughout the borders of our land; and it gives me very great pleasure to present to you the able, the efficient, and the most competent Commissioner of Labor of the State of New Jersey, General Lewis T. Bryant, who will be the Chairman this evening.

CHAIRMAN BRYANT: Dr. Patterson, ladies and gentlemen, after the very flattering introduction I just received I feel very much like one of two generals who were on the field of battle. Just about the time they were ready to order a charge a little rabbit was scared up at their feet and commenced to run away from the line. One general looked at the other and said, "Do you know if I had no more reputation to lose than that rabbit I would do the same thing." I feel it will be utterly impossible for me this evening to live up to the reputation that the distinguished Chief of the Division of Industrial Hygiene and Engineering has given me.

I think it is most fitting that we should have gatherings of this kind at this particular moment and if there ever was a time in the history of this country, or of the world, when it was important to conserve the life, limb, health, and comfort of the industrial workers of our land and to promote their efficiency it is this very moment. Now, those of us who are living in this generation I think, perhaps, do not realize the comparatively short duration of the so-called factory practices. The lives of the oldest men or women present in this audience would not run back to the time when they did not see the large industrial establishments that are now surrounding us. But do you realize that the industrial life and the concentrated employment of the men, women, and children is a problem which is a little more than one hundred years old? If you will take up your history of Colonial times and read of the Colonial homes in this country you will find that the spinning wheel and the loom were just as much a part of the fixtures of the family as the kitchen stove, in fact, there were no kitchen stoves at that time and they cooked over open fire places. The wool was taken from the flocks on their farms and brought in to the housewife and the cloth was spun by her hands. Each village had its cobbler and shoes were made in small quantities; and so there was no necessity, no incentive for the gathering together of these large numbers of men, women and children into our so-called industries. The machine for spinning cotton invented by Arkwright in 1769 was the beginning of a revolution in this condition. This was followed in 1775 by the spinning mule, invented by Hargreaves; followed in 1787 with the power loom invented by Cartwright, and these, in conjunction with Eli Whitney's invention of the cotton gin in 1793 absolutely revolutionized this previous condition. There was an inducement to bring these men, women and children together and to make the best possible use of this new type of machinery which had been invented for doing in very big mills and in very large quantities that which had been done in small quantities in the homes throughout the land. It was the beginning of our present problem to care properly for life, limb, health, and comfort of large numbers of workers in concentrated employment. This commencement of industrial life was accompanied by the most unspeakable conditions. There was an inducement to bring small children into these factories and it is a matter of record that the very greatest abuses existed; that children as young as ten years of age worked fourteen hours a day and under very trying conditions.

Now I think any student of the industrial life of this or any other nation will agree that probably the most insidious and the most hurtful attitude of mind is the so-called acceptance of conditions as an inherent risk of the trade. If it were possible to impress upon the minds of the community, of the state, and of the nation, the evils which are attendant upon certain types of industry, there would

snch a hne and cry arise and snch an overwhelming demand made for the righting or correction of this condition that it would be impossible to stem the tide. They don't know it. They look npon the man going into mechanical indnstry, a mnnition plant, undertaking to work in the lead trade or metal polishing, or a myriad of other plants—they say it is an inherent risk of the trade; it goes with the job; yon mnst expect this condition if taking up this type of employment. Do you realize, iu considering the dangers to health and the injnries inflicted from this type of employment, the fact that so mnch is preventable? It is a problem that is deserving and shonld receive the very best thought of the best type of men in our country. Unfortunately, the accidents which occur do not arise of necessity from the indnstries which are in themselves normally the most dangerons. I believe the highest bnilding in this conntry, probably in the world, is the Woolworth Bnilding in the City of New York, which is 790 feet high. That building was bnilt from the foundations to the top of the dome withont the loss of one single life and yet it has been said in the original construction of skyscrappers in New York City that they averaged about one life a floor above the tenth story. That was because they recognized the fact that it was an nnnsually daugerous undertaking. They were therefore unusually carefnl and made nnnsual preparations to prevent any accidents occnrring. In the matter of ladders which are almost as mnch the fnrniture of the honsehold as any other portion of honsehold fnrniture—in the matter of slipping ladders in the United States during the year there were abont six thonsand people killed and two thousand people injured; and this on an implement which normally wonld be presnmed to be very harmless in its character and in its use.

So far as I kuow, the first legislation for the prevention of nnhealthy or improper conditions of employment was enacted in the City of London abont the last of the eighteeuth ceutnry, almost coiucident with the time our forefathers were fighting for liberty in this conntry. The condition which prompted this particnlar type of legislation was the frightfully inhuman treatment of a band of children who were exploited by a number of men iu the City of London. These little waifs, who were gathered mostly from the asylums and from the parish houses, were herded together and taken about the City of Londou and forced to go np into the chimneys to sweep dowu the soot; little tots as young as four to five years of age. It is a matter of record that where these little children would not go np voluntarily into the chimney on account of fright they took whisps of straw and lit them and put them in the chimney fine under the feet of those children and forced them up the chimneys. At night these children were taken and herded in unsanitary rooms withont proper washing facilities and as a cousequence they contracted a disease known as chimuey sweep's cancer. When an investigation was made and the good people of England were confronted with the facts there was snch a tremendons uprising over conditions of this character that the first legislation was placed upon the statute books in London preventing this particular industry. Now, it is also hard for us to realize that at abont this same moment, in the mines of Wales, women were working stripped to the waist, walking on hands and knees hitched with small donkeys as beasts of burden, going throngh the devious passageways of these mines. It is hard for ns to realize that in a period of history which would prodnce snch magnificent intelligence and snch wonderful writers, such wonderfnl statesmen, that snch conditions wonld have existed at the period of time and history when these men lived, but it is a fact; and I am perfectly satisfed in my own mind that if it were possible for us to look retrospectively over the conditions of employment as they exist now, say one hundred years from today, we wonld be struck with the fact that conditions were conntenanced in our United States of America, England, France, Germany, and other industrial civilized nations which made it possible to have thirty thousand

men killed in this country in one year, three hundred thousand men injured and about three million of our industrial citizens or workers ill during this period of time. We would say, "How was it possible, why did they permit conditions to exist in these industries which would take such a toll of life and cause such misery and care from sickness and make such suffering possible; why did they allow an industry to continue which would by reason of its conditions affect the health as some of our industries unfortunately do today?"

I am perfectly sure in my own mind that the viewpoint of the employment of men, women, and children is going to be so much better in succeeding years that they will then have very much the same attitude of mind as we have when we look back upon the days of the chimney sweepers and women workers in the mines of Wales, which is a little over one hundred years from the time of our present civilization.

Now, as late as 1821, in the entire British Isles there were only two factory inspectors and the duties and obligations of these men were very meagre, practically nothing to do with conserving the life, limb, health, and comfort of that exceedingly large army of workers. The United States was normally a rural country one hundred years ago. We were made up largely of rural people living upon farms but during this period of time the whole atmosphere of our land has changed. In that time we have become the greatest industrial nation in the world, both in the size of output and in the character of the factories which we have and, of course, the problems which have accompanied this tremendous growth industrially have been proportionate to its expanse. Unfortunately, the legislation, taken throughout the land as a whole has been more or less of the makeshift character. There has not been a co-ordination of effort. Very much of it has been predicated upon ignorance. I hold no particular brief for the Government management or for Federal legislation or Federal enforcement, but I do believe that in this country the Federal Government should set the way. If you will study the conditions in Germany you will find that in the capital of each of their states, for instance, Munich, Berlin, Frankfort, and the various other German capitals, what is known as the Workmen's Museum of Safety, Sanitation and Hygiene. You will find there practical illustrations of the best thought in the safeguarding of machines, the best methods of conserving the health of operatives in dangerous trades; you will find there the point from which the knowledge and method of operation permeates throughout that particular state; and I believe that is a condition which should exist in this country. I believe at Washington they should have the best workmen's museum, safety museum or museum of hygiene and sanitation that exists in the entire world. I believe that is one of the most crying needs of this country; that those of us who are conscientiously endeavoring to study the best methods of safeguarding the operatives in any particular craft or under any particular conditions should have some place where we could go to get a practical illustration of the best thought and of the best methods of reaching that particular problem. I do not know of any one thing to be done in this country which I believe would conserve or promote the safety movement in its widest application more than a museum of this character. With this illustration before us and with this example set by our Federal Government there would be no excuse for the conditions which exist in some of our states at this time.

Is it fair to the employer for various requirements to exist? For example, there was a difference in the State of New Jersey for some years between the working hours of minors under sixteen years of age in the textile mills in the City of Camden and the textile mills in Kensington, Philadelphia, of a full half day's time each week. In the State of New Jersey, we had the fifty-five hour law and in the State of Pennsylvania they had the sixty hour law. Now, was that fair to the manufacturers of New Jersey? If you go, on the other hand, however,

into the State of New York, it seems they had a lower number of hours of work permitted than in New Jersey; therefore the New York manufacturers were placed at the same disadvantage in competition with the New Jersey manufacturers. At the present time some of the regulations of Pennsylvania are much more stringent than the regulations covering like industries in New Jersey, and I do not believe or think it is a proper condition. I believe that the enforcement of remedial legislation or remedial requirements throughout the country should be more regular, should be more uniform. I think one of the best steps in this direction was the passage of the National Child Labor Law. I do not see why children should be permitted to work in the southern states at twelve years of age when practically all of the northern states insist on their being at least fourteen years of age.

This same type of co-operation between the Federal Government and the sister states could be carried on in a myriad of ways. In addition to the child labor law the Federal regulations covering the explosives industry throughout the country is of great value. I do not see any reason why that type of legislation should not obtain in all the ramifications of our industrial life.

It is my very great pleasure and distinguished honor to introduce the speakers of the evening, the first of whom will speak on the subject of "The Bearings of Physiological Science upon Industrial Efficiency." I have said in my opening remark that I did not know any time in the history of this country that it was more necessary to do everything possible to promote the efficiency of our workers. I believe the general subject of efficiency is one which should be taken in all its phases. There should be no lost motion, but everything should be done that it is possible to do to promote the very highest type of management, the shortest number of hours, the smallest number of operatives, and the performance of work with the minimum strain upon health or comfort consistent with proper output —a study well worthy of our attention. I do not for a moment share in the attitude that some people take of the efficiency engineer. Possibly you have heard the story of two men discussing the efficiency engineer. One said to the other: "I have no time for these efficiency engineers. My experience has been that they are neither efficient nor engineers, they are very much like a Welsh rarebit, neither Welsh nor rabbit, but a piece of cheese." Now, I say that I believe very firmly in the promotion of anything which has to do with the ultimate efficiency of our industries; and I take great pleasure in introducing to you Dr. Frederic S. Lee, Professor of Physiology, Columbia University, New York.

THE BEARINGS OF PHYSIOLOGICAL SCIENCE ON INDUSTRIAL EFFICIENCY: A REVIEW OF RECENT WORK.

By FREDERIC S. LEE, Ph. D., Professor of Physiology in Columbia University; Executive Secretary of the Committee on Industrial Fatigue; Consulting Physiologist to the U. S. Public Health Service.

One of the most striking features of the present war is the unprecedented use that is being made of science. In all directions one sees the laboratories called upon to direct their past discoveries and

their present powers toward the devising of ways in which best to achieve the ends of the warring nations, and the men of the laboratories called upon for experimentation, for counsel, and for the guidance of the various units of the vast forces employed. This is so not only at the front where the multitudinous death-dealing and death-defying devices daily and nightly proclaim the supremacy of science, but back in the hospitals where the dying are saved from death, in the camps where the living are made fit for fighting, in the factories where the instruments of war are being rapidly produced, and even in the homes of the people where training in scientific living is being attempted on a gigantic scale. It seems impossible that this wide recognition of the utilitarian value of science and this eagerness to utilize its achievements shall altogether cease when the horrors have ended and the possibility of peaceful living returns. With the new ways of thinking and of living that are now being learned, mankind will probably continue to demand and the laboratories will certainly continue to discover, even more efficient ways, and it seems inevitable that science will continue to maintain its proud place among the leading factors of human progress.

Industry has never been backward in accepting and utilizing scientific discoveries. Once they have been shown to be of real value in increasing the output, decreasing the cost, or improving the quality of the product, they are quickly adopted and made a part of industrial processes. Industry does not merely wait for outside contributions, but maintains its own laboratories, often upon a large scale and manned by able men, and thus scientific research has become one of its prominent features. The phenomenal industrial advances of recent decades have been due chiefly to the achievements of two sciences; mechanical engineering, which has invented and developed automatic machinery, and chemistry, which has discovered new chemical substances and new chemical processes.

But all this great progress in improving industrial work on its physical side has not yet succeeded in eliminating the human being. Men and women are as necessary as ever to the performance of industrial work, however much their occupations may have been changed, and one of the great problems with which industry still has to deal is that of discovering how this human element must be utilized in order to secure its greatest efficiency and obtain from it its greatest value to the employer. Industrial medicine and sanitation have been making marked headway; efficiency engineering, or scientific management, has devised methods that under proper direction have proved valuable; and no one can dispute the fact that these agencies have contributed a considerable share in making the human factor in industrialism more effective. But none has solved the problem, and in recent years it has become gradually clearer that much light

can here be derived from physiological science and that a new application of physiological principles—an industrial physiology, if one desires a specific title—has been gradually appearing.

From the standpoint of industrial physiology the industrial worker is looked upon as bringing to the general physical equipment of the factory his own bodily machine, the most intricate of all the machines used in the plant. This machine must be understood, it must be constantly watched, it must be used intelligently, and it must not be abused. Like other industrial machines it can be worked at different speeds, but unlike other industrial machines it cannot be worked for an indefinite period, because it is subject to the limitation of fatigue. Fatigue delays work, diminishes output, spoils goods, causes accidents and sickness, keeps workers at home, and in all these ways is an obstacle to efficiency. How fatigue can be kept down to its lowest reasonable limit, how the working power of the individual can be maintained from day to day and from week to week and be made to yield a maximum output without detriment to itself and to others—in other words, how the human machine can be used so as to obtain from it the most profit—constitutes one of the great industrial problems of the day.

Much light had already been thrown upon the solution of this problem before the war began to make its unprecedented demands on industrialism, but progress has been much more rapid since the fateful month of August of three years ago. Various individual efforts to investigate industrialism from the physiological standpoint have now by common consent centered in Great Britain in the Health of Munition Workers Committee and in America in the Committee on Industrial Fatigue of the Advisory Commission of the Council of National Defense, associated with the Public Health Service. These two bodies have been actively engaged in studying war industries, and the results of this study, not yet ended, are already beginning to have an important, and will, it is hoped, continue to have a lasting, influence on the industrial work of the world.

The American Committee has been making a study of the hourly output of individual workers throughout the working shift. Their observations, which have been carried out under the immediate direction of Mr. P. Sargent Florence, who was formerly connected with the British investigations, when combined with previous results obtained by him and others, show that the course of output follows certain definite lines which differ in different kinds of occupation and constitute more or less distinct types. These may be represented by typical curves. The study is not yet completed and the curves so far obtained cannot be regarded as necessarily final, nor do they necessarily comprise all possible types. They are therefore presented here as tentative and suggestive.

When in a familiar experiment of the physiological laboratory a single muscle of an animal is stimulated for a considerable period by a regular series of slight electric shocks and is made to contract with each stimulus, and with each contraction to lift a given load, the work performed in the successive contractions from the beginning to the end may be regarded as a curve which, while differing in details, is perfectly typical of all muscles. The greatest amount of work is not performed at the beginning of the working period, but the curve at first rises gradually to a maximum, indicating for a time a progressive improvement in working power. This rise is still usually called by the original name given to it, the "treppe", or "staircase". Following the maximum, there is a gradual slow decline in the curve, indicating gatigue, which may continue until the muscle is completely exhausted and totally unable to lift the load. The treppe and the fatigue are typical normal phenomena. This curve of the work of a single muscle may well be kept in mind in considering the curves of output of the industrial worker in a working spell. It should be understood, however, that in the humar being the physiological conditions are infinitely more complicated than in a single muscle, for there are added the many other organs of the body whose functions may possibly modify muscular work, and especially the nervous system, with all its possibilities of wilfully changing an output curve that might otherwise represent genuine capacity. In the output curve of the human being a rise may signify, not an involuntary treppe, but a voluntary spurt; and a fall may signify, not real fatigue, but a voluntary restriction of effort. It is not always easy, and it may often prove impossible, to distinguish between the involuntary and the voluntary phenomena.

A curve of output that closely resembles the muscle curve has been found in work that requires close attention and exact muscle co-ordination. There is at first a gradual rise, continuing through the first hour or two, then a fall gradually increasing throughout the remainder of the working spell. After the luncheon hour the general form of the curve is repeated, but with slight changes in detail. The rise in each spell is often called the "practice effect," although it is analogous to the treppe of the muscle curve; the fall, if the work is not voluntarily restricted, is usually interpreted as indicating fatigue. The greater height of the curve just after, as compared with its height just before, the luncheon hour represents the restorative effect of rest and food; and the lower point of the curve at the end of the second, when compared with that at the end of the first spell, signifies the cumulative fatigue of the day.

In occupations that are distinguished especially by their muscular character, the output curve, although more observations are here

needed, seems to show progressive fatigue; but the practice effect may be wanting, and a rise, followed by a fall, appears in the latter half of the spell. This late rise indicates a temporary inhibition of fatigue, perhaps a second wind; it is less, and fatigue is more, marked in the second spell.

Where work is monotonous and where it is frequently broken by natural pauses, a curve may be obtained which for both working spells is nearly a straight and horizontal line, showing a slight practice effect but no fatigue.

The American Committee has found instances of another type of output, in which the figures of the total daily production by the individual from day to day, and even from week to week, show a striking uniformity, and the inference seems to be justified that the workers are not working to their full capacity but, either voluntarily or involuntarily, have fixed upon a certain quantitative output as appropriate to a day's work. No generalized form of curve for such a method of working can yet be presented, but individual curves show usually an early fall with often a marked spurt before the close of the spell. To what degree fatigue enters into the work here is difficult to decide without further study. The frequently pronounced spurt following a decrease in production, is evidently due to the recognition by the worker that unless he bestirs himself his stint will not be finished by closing-time. The fact that a pronounced spurt is possible indicates that capacity had not before been reached. If work is actually stopped for a portion of the spell for any unusual reason, such as the breakdown of the machinery, there is a rush to accomplish the conventional amount before the end, and this often succeeds. This direct limitation or, as Florence calls it, "sterotyping" of output, might be expected where wages are paid by the day, but it is found even where piece rates prevail and the worker is free to earn more by doing more. Its cause is probably complex, and many elements may enter into it—the unthinking recognition that a certain amount is enough for a day's work; the fear, often justified, that if more is accomplished piece rates will be cut; the disinclination of many rapid workers to surpass their fellows; unwillingness or inability of the foreman to drive until individual capacity is reached the realization by the foreman that if individual capacity is reached; his department will soon exhaust all its available stock; and, last but not least, in many cases just plain human laziness. Overdriving has long been recognized as one of the evils of industrial work, but less attention has been given to underdriving. It seems reasonable that individual capacity should be among the first factors to be considered in determining the standard of output. The prevalence and causes of a maintenance of output on a sterotyped level far below the limit of individual capacity would well repay careful study.

Which, if any, of the various curves of output that have been presented represents the ideal that should always be striven for cannot now be stated. Here experiment is needed. Where a genuine fatigue fall in the curve is pronounced, the cessation of work is obviously indicated. This may take the form, as circumstances may indicate, of either an intermediate recess period or the shortening of the hours spent at the factory.

This brings us to one of the most obvious problems of industrial physiology: viz. that of the duration of daily and weekly labor. At the beginning of the war, along with other evidences of the feverish haste which characterized the nation's activities, the duration of labor in the munition factories of Great Britain was greatly increased. Besides lengthening the regular daily schedule, overtime and Sunday labor were frequently resorted to. In America, following the lead of the Council of National Defense, hours that had already been established by custom or law have in general been maintained, and unusually prolonged labor has been avoided in most factories. The result of the long British hours is what might have been predicted, the production of excessive fatigue; in America excessive fatigue seems so far to be less pronounced.

It is widely believed, and especially by employers of labor, that longer hours mean necessarily a greater output. If industrial physiology does nothing else but show the fallacy of this notion, it will have justified itself. A man can of course accomplish more in two hours than in one hour, but it does not follow that he can accomplish more in fifteen hours than in twelve, or more in twelve than in ten, or even more in ten than in eight hours. Here the American Committee has discovered a strikingly suggestive fact in the night work of one of our large munition factories, the duration of the night shift being twelve hours. After 5 A. M. the curve of output shows a rapid decline, and during the last forty minutes there is very little or absolutely no production. The elimination of the last two hours would be greatly to the advantage of the men and would probably result in no diminution but an actual increase in the total product turned out. Under the British Committee Vernon has accumulated most striking statistical evidence of the beneficial results of a reduction of the hours of labor. Two instances will suffice to illustrate the point: With a group of 80 to 100 women turning aluminum fuse bodies the reduction of the weekly hours of actual work from 66.2 to 45.6, a saving of more than 20 hours, increased the gross production by 9 per cent. When the actual weekly working hours of 56 men engaged in the very heavy labor of sizing fuse-bodies were reduced from 58.2 to 51.2, the gross output was increased by 21 per cent.

It is impossible in the time here allowed to go further into detail in the bearings of physiological science on industrial efficiency. Industrial physiology tells us, in the interest of a large output, not only to keep the hours of labor down to what experience has shown to be a reasonable limit, but to choose this limit in accordance with the fatiguing effects of the different specific occupations. It tells us to introduce recess periods into long spells, to omit Sunday labor, and to impose overtime on already fatigued workers only in rare emergencies and when compensation can be given by free hours later. It tells us not to keep the same workers continually on the night shift, but to alternate night with day work. It tells us that each worker and each task possesses a specific standard of strength, and it indicates in what task each worker will probably prove most efficient. It tells us that each worker has a rhythm that is best adapted to his own neuromuscular mechanism and that it is advantageous to place in a squad of workers doing a specific task only those possessing similar rhythms, eliminating the faster and the slower individuals, and then to adjust the speed of operation to the common rate. Such instances as these few reveal the scope of industrial physiology and show how it is indicating some of the ways in which the most intricate of all industrial machines, the body of the worker, must be used in order to bring out its greatest usefulness.

Our Government is now rapidly making contracts for war goods of all kinds. Our factories, heretofore engaged largely on foreign orders, are now turning eagerly to the work required to maintain and equip our own forces. Now is the appropriate time to place this work upon a scientific basis and in accord with the principles of industrial physiology. I am sure that if such facts as I have been able only briefly here to present could be understood in all their significance by our producers of war supplies, the end of this latest and most terrible world struggle would be hastened.

CHAIRMAN BRYANT: We will be glad to hear any general discussion on the paper or you can ask the speaker any questions.

T. H. CARROW, Safety Inspector, Insurance Department, Pennsylvania Railroad Company, Philadelphia, Pa.: Mr. Chairman, I would like to ask the Doctor to give a little more detail in regard to the advantage of shifting from night to day work.

DR. LEE: The one great advantage of course is the greater output. We ought to have the actual figures of output. The subject has been studied by the British Committee but I have not with me the report which gives the figures. What the British Committee did was this: They studied the output of certain individual workers working continually on the night shift. Then they studied the output of the same individual workers when they worked for one or two weeks on the night

shift and then changed off for one or two weeks to the day shift. They found that over a certain somewhat extended period the output was considerably larger with the alternation of the night work with the day work than when the night work was continuous. The exact percentage of increase I do not remember at this time.

MR. CARROW: What is the explanation of the improvement?

DR. LEE: The British Committee offered no explanation of it. I think the explanation, however, lies in the general physiological effect of night work, about which we know, I must confess, comparatively little. But we know that night work activity for the human being is abnormal. There can be no question about the fact that man is not naturally a nocturnal animal. I think therefore that the explanation lies in the general physiological phenomena of night activity as compared with day activity. We ought to have more light, however from careful and proper experiments.

MR. CARROW: Was the point of disorganization, effected by shifting from one to another, decided in the investigation? For example, if you have a number of men working on a proposition at night and shift them to the daylight forces, it necessitates a little explanation and often rearrangement and observance of rules, etc.

DR. LEE: So far as I remember the British Committee did not touch upon that. But the committee had very unusual opportunities for carrying on experiments of the kind in the British munitions factories. I don't know to what extent that caused disorganization. I imagine it did not cause a great deal. I was talking with the manager of one of our large munition factories about the introduction of the changes I have been speaking about and he brought out the usual objections,—impossible to do it. I said: "Mr. Smith, would it be actually impossible to make this change?" He said, "Nothing is impossible." The point is, he had been working along the traditional program and it was difficult for him to make the changes that were suggested, but he was sufficiently open-minded to allow that if the changes would increase the output and were for the betterment of the plant, it would be possible to make them. I quite realize that it is difficult but I think the progressive manager would find it possible.

MR. CARROW: I would like to say for the interest of the Doctor and possibly of those who are present, that I am familiar with a plant that employs four or five hundred men and that recently discontinued night work altogether and are turning out as much work at a reduction of ten or fifteen per cent of the cost.

FREDERICK L. HOFFMAN, LL. D., Statistician of The Prudential Insurance Company of America, Newark, N. J.: I would like to ask Professor Lee whether it is not a fact that the British Committee did not discover any material difference in output between day work and night work after they had introduced the required element of control,—in other words, after they had substituted the method of working continuously for two weeks at night and for two weeks at day?

DR. LEE: I think you are quite right.

DR. HOFFMAN: That is profoundly important because your statement that all night work is abnormal might be construed into an assumption that no night work should be performed if it could possibly be avoided; but with a larger number of industries their working conditions must be continuous industry and it is a question, therefore, rather of intelligent regulation of night work than of night work as such,

DR. LEE: Your statement is admirable. It is in accordance with my own idea. I did not intend to convey the idea that all night work was seriously detrimental necessarily.

CHAIRMAN BRYANT: Any other questions?

DR. OTTO P. GEIER, Cincinnati Milling Company, Cincinnati, O.: I would like to ask Dr. Lee to enlighten us a little further on his definition of the difference between the statement that he made, between scientific management and time study, and the studies that he has presented; not that I want to involve him but it has occurred to me that scientific management, and the making of time studies, is after the same results at which he is attempting to arrive from different studies. Scientific management, in making time studies, makes an effort to determine over a long period the speed of the man on a certain shift. Now, if they find he tires too much on a certain speed they increase the time. Now, they may not be thinking in terms of muscle fatigue, but be after the same thing and may arrive at the same result. It would be unfortunate if the idea went out that scientific management is at odds with the study Professor Lee is making.

DR. LEE: The idea I intended to convey is this: That scientific management, as it is very commonly practiced, is at variance in some respects with the ideals of industrial physiology. I think many of the theories of scientific management are quite in accordance with the teaching of industrial physiology. I fear, however, that scientific management, as fragmentarily practiced, is far below the highest ideals of industrial physiology. The leaders in scientific management have studied a great deal about fatigue and the desirability of avoiding fatigue. It is my belief that with scientific management, as very commonly put into practice, fatigue is not avoided and that the efficiency engineer is simply used as a cloak for overdriving the workers; and that is my objection to scientific management as very commonly practiced—not necessarily to the best of its principles, many of its principles I think are quite in accord with the practice of the principles of industrial physiology.

CHAIRMAN BRYANT: Are there any other questions? I believe it is understood by the representatives of firms here that the service and advice, for the study or examination of their plants can be obtained by making application to Professor Frederic S. Lee, Columbia University, New York City, or to the United States Public Health Service, Washington, D. C. This service is rendered without any cost.

We will now have a motion picture, after which the program will be continued.

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(A motion picture entitled "The Reason Why," courtesy of C. L. Close, Manager, Bureau of Safety, Welfare and Sanitation, the United States Steel Corporation, was then shown.)

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CHAIRMAN BRYANT: New Jersey was probably the first state in the Union to adopt the Workmen's Compensation Law. It was my privilege to speak to a number of gatherings of manufacturers in regard to this law almost immediately after its passage. At that time I made the prediction, in spite of the attitude taken by a number of the manufacturers, that I believed in a short period of time required to get the popular feeling the manufacturers of the state would not be willing to go back to the old method in lieu of the operation of the compensation law. After the period of years that have passed since the adoption of that law in New Jersey I am fully convinced that my original prediction is true. The law has been so generally successful in its operation that it is now accepted as the best method for the settle-

ment of claims for industrial aeeidents. Pennsylvania was somewhat more tardy in the adoption of this law and therefore it had the benefit of the experience of other states who had gotten into the movement a little quicker. I am glad to say that they have in many respects profited by that experience and today they have one of the best pieces of machinery for the enforcement of this particular legislation of any state in the Union.

I take pleasure in introdueing the distinguished Chief of that particular braneh of your Commonwealth's activities, Harry A. Maekey, Chairman of the Workmen's Compensation Board of Pennsylvania, who will speak to you on the subject of "Railroad Employes and Workmen's Compensation Laws."

MR. MACKEY: Mr. Chairman, ladies and gentlemen, you will pardon me if just for a moment I digress from the subject of my paper to speak of the picture we have just seen. Perhaps there are some here who feel that this pieture was taken under somewhat exaggerated eircumstances, that perhaps the dangers of carelessness were over exaggerated for the purpose of teaching a lesson; but if you had the privilege of sitting with our Board week after week in various seetions of Pennsylvania and hearing the stories of these unfortunate men, when they are pressing their claims for compensation under our law, you would soon make up your minds that this picture is underrated than exaggerated. These are the problems we have to deal with every day. Perhaps it might bring home to you somewhat the foree of this picture if I told you that during the month of Oetober just passed we had reeorded in Pennsylvania eighteen thousand injuries to our industrial workers and that at our last meeting in Pittsburgh our Board approved of five thousand compensation agreements entered into voluntarily between the injured employe and his immediate employer or the insurance carrier covering the employer; which leads me to say that I never neglect an opportunity in public to pay a deserved tribute to the employers of Pennsylvania for the cheerfulness with which they took up this law and the thorough co-operation they have given its instrumentalities in its administration.

There has been left, however, beeause of a recent decision of the Supreme Court a vast army of workmen, not only in Pennsylvania but throughout the United States, probably over two million men who do not eome under the terms of the Workmen's Compensation Law in any state. They are relegated to their rights under the Act of Congress which bases their right to eompensation or damages entirely upon negligence first being proved against the railroad carrier, and inasmuch as probably ninety-nine out of every hundred accidents that happen in railroad activities happen under such circumstances, that no negligence could be charged against the employer, you can readily see what a vast army of workers are without any compensation advantages throughout this eountry and when Doctor Jackson asked me to select a subject for this evening I selected that one that was nearest to my heart and weighs heaviest upon the minds of my colleagues in the administration of the Workmen's Compensation Law and that is the relationship that now exists between the railroad employes and State Compensation Laws.

RAILROAD EMPLOYES AND WORKMEN'S COMPENSATION LAWS.

By HARRY A. MACKEY, Chairman, Workmen's Compensation Board, Pennsylvania Department of Labor and Industry.

After seven months' actual experience in the administration of the Pennsylvania Workmen's Compensation Law, it became apparent to the Board that there was a certain line of cases, the consideration of which must then be postponed until the Courts of last resort should give us a guide by which they could be properly and finally adjudicated. Accordingly, on August 18, 1916, we created what we called a "Postponed Calendar" and placed thereupon twenty-six appeals pending before us each involving the question of conflicting jurisdiction between the United States statute and State Workmen's Compensation Laws. The determination of these cases suggested both questions of law and fact. In some, it was admitted that both the railroad company and the employe at the time of the injury to the latter were engaged in interstate commerce; while in the remaining ones the circumstances were such that they presented nice questions of legal construction. At that time there were two well defined theories as to these cases each having support in the Supreme Court of certain states. Appeals were pending in the Supreme Court of the United States. The one thought that prevailed in the States of New York and New Jersey was that, while admitting that Congress under the Constitution enjoyed the exclusive right to legislate upon the questions involving interstate commerce, it was contended that where an employe of a railroad company was injured *without negligence* on the part of the defendant, that Congress had not by the Employers' Liability Act of 1908 legislated to the exclusion of a state law which provided compensation without regard to negligence. This thought was typified in the case of Winfield v. New York Central Hudson River Railroad Company then in the United States Court for final review. To the contrary the Courts of California and Illinois had held that where the power of Congress has been exerted in the direction of covering the matters sought to be regulated, and its legislation is comprehensive to that end, then all state regulation must give way before the superior law. This thought was expressed in the cases of Smith v. The Industrial Accident Commission of California, 147 Pac. 600 and Staley v. Illinois Central Railroad Company, 268 Ill. 356.

On May 21, 1917 the Supreme Court of the United States finally determined this question, rejecting the thought of the Court of Error & Appeals of New York and affirming the position of the California and Illinois Courts. It proclaimed the doctrine that the federal Employers' Liability Act of 1908 applies to all injuries to employes of interstate carriers occurring while the carrier and employe are engaged in interstate commerce whether such injury be caused by the carrier's negligence or not. Therefore workmen's compensation acts of the various states were held not to apply to such injuries. In the meantime the list of such cases had increased from the original number of 26 to over 100 within our own state.

It then became our duty to consider these cases and one by one to determine the facts of the employment. When it was perfectly clear that both the carrier and the injured employe had been engaged in interstate commerce at the time of the accident we had no other course left open but to deny compensation. In many others these questions of fact were so interwoven with interesting legal problems that final determination involved very fine distinctions of law.

In addressing ourselves to such cases the Supreme Court of the United States had very frequently given us the rule to which it was necessary to strictly adhere. It must be remembered that the Act of Congress of 1908 was the attempt of our national law makers to lessen the rigors of the old common law rules of evidence and to make easier the burdens that had thereby been thrown upon plaintiffs who sought to recover for injury to employes growing out of railroad activities. The Supreme Court of the United States in all these decisions strove to write into its opinions the humanities behind this Act. This court endeavored at all times to translate into its decisions the evident intention of Congress at the time of the adoption of this legislation. As late as the Winfield case, Mr. Justice Van De Vanter sought the Congressional Record to discover the intention of Congress at the time this law was passed and in his opinion quoted from the House and Senate Report of the First Session of the 60th Congress as follows: It (the bill then under consideration subsequently the Employers' Liability Act of 1908) is intended in its scope to cover all commerce to which the regulative power of Congress extends * * * by this bill it is hoped to fix a uniform rule of liability throughout the Union with reference to the liability of common carriers to their employes * * * A Federal statute of this character will supplant the numerous state statutes on the subject so far as they relate to interstate commerce. It will create uniformity throughout the Union, and the legal status of such employers' liability for personal injuries instead of being subject to numerous rules will be fixed by one rule in all the states."

The judicial minds of our courts therefore were not impervious to public sentiment as a very evident purpose runs through all the 500 or more decisions of the United States Courts interpreting the Federal Employers' Liability Act of 1908 to so liberally construe this Act that it could extend its benefits to as large a field of labor as possible. This resulted in decisions that stamped almost every form of railroad activity on the part of the employes as interstate commerce. This was entirely to the advantage of the railroad employe up to the time that the various state legislatures began to adopt workmen's compensation legislation. Now, however, in the light of the Winfield decision this liberality on the part of the Courts in defining what constitutes interstate commerce works to the disadvantage of the employe as he is thereby barred from state compensation.

We have now this situation—nearly every occupation of a railroad employe must be construed to be a part of interstate commerce and only a small fraction of the cases of injury to railroad employes can be considered by Compensation Boards. One of the most comprehensive as well as inclusive opinions in this respect is found in Pederson v. D. L. & W. R. R. 229 U. S. 146, where the Supreme Court said: "That the defendant was engaged in interstate commerce is conceded and so we are only concerned with the nature of the work in which the plaintiff was employed at the time of his injury. Among the questions which naturally arise in this connection are these: Was that work being done independently of the interstate commerce in which the defendant was engaged, or was it so closely connected therewith as to be a part of it? Was its performance a matter of indifference so far as that commerce was concerned or was it in the nature of a duty resting upon the carrier? The answers are obvious. Tracks and bridges are as indispensable to interstate commerce by railroad as are engines and cars; and sound economic reasons unite with settled rules of law in demanding that all these instrumentalities be kept in repair. The security, expedition, and efficiency of the commerce depends in large measure upon this being done. We are of the opinion that the work of keeping such instrumentalities in a proper state of repair while thus used is so closely related to such commerce as to be in practice and in legal contemplation a part of it. The contention to the contrary proceeds upon the assumption that interstate commerce by railroad can be separated into its several elements and the nature of each determined regardless of its relation to others or to the business as a whole. But this is an erroneous assumption. The true test always is; Is the work in question a part of the interstate commerce in which the carrier is engaged."

I will not cite several other cases I have here except to say that under that comprehensive opinion, that exclusive suggestion of the Supreme Court, you can scarcely imagine any work of a railroad employe that was not stamped by that opinion and others following it to be Interstate in character. As a workman turning out a part of the machinery of a locomotive that is used in Interstate commerce, although his work is shop work, the courts have held that he is engaged in Interstate commerce. One package of interstate shipment or, in other word, a package upon a train consigned from a point within our state to a point outside our state impresses the whole train with the character of interstate commerce and all the employes in the operation of that train are engaged in interstate commerce and if injured their cases cannot be considered by a State Board.

So with the Seale case in 229 U. S. 156—while helpful to railroad men before the advent of workmen's compensation laws—is now to their disadvantage. This case held that "yard clerks examining incoming and outgoing trains and making a record of the seals on car doors, checking cars with conductors' lists, putting cards or labels on the cars to guide switching crews in making up incoming and outgoing trains engaged in interstate commerce are within the Federal Act if there are any interstate shipments in the train."

The Carr case in 238 U. S. 260 is in the same class, where it was held: "a brakeman on a 'pick-up' freight train, running between points in the same state, but containing some cars loaded with interstate freight, who was injured while attempting, in the course of his employment, to set the brake on an interstate car which had been cut out of the train and backed into a siding, was employed in interstate commerce."

Our Board has held that when a case comes before us simply showing a railroad employe injured within the course of his employment in the State of Pennsylvania, there is no presumption that either he or the carrier at the time was engaged in interstate commerce, and that if the carrier sets up interstate commerce as a defense, then it assumes the burden of proof and must indisputably prove that fact. In this we are sustained in Osborn v. Gray, 241 U. S. 16. However, notwithstanding the fact that in applying our state law we are trying to follow the precedent set by the Supreme Court of the United States in its attempt to extend the benefits of the Act of Congress of 1908 to as large a field of employes as a liberal construction of the Act will permit, and while we have placed all the burden of proving interstate commerce upon the defendants, nevertheless, a startling and lamentably large number of otherwise meritorious cases have necessarily been denied compensation in our state, which leads us to the reiteration of certain of our observations in this respect and a proposal of a remedy therefor.

At the time we created the "Postponed Calendar" we said: "The happiness, contentment, and welfare of the vast army of railroad workers of the United States will be more promptly and thoroughly secured by allowing them to submit their claims for compensation to state tribunals than by any scheme that can be devised by Congress. In our State the industrial workers thoroughly appreciate the Pennsylvania Workmen's Compensation Law of 1915. A feeling of contentment and certainty has taken possession of the man who toils, for he knows that no matter what misfortune may overtake him in his daily labor the legislature of his State has made provisions for his dependents that will secure them against real want and will care for and nourish them during a period when relief is most needed.

"On the other hand the citizen who is engaged in railroading goes to his hazardous employment each day knowing that if he should be killed in his occupation, that he has left to his wife and dependent children an inheritance of litigation. They must meet the railroad company in court and establish its negligence before a jury can consider the question of damages. All the disadvantages are upon those least able to meet this burden of proof. They will also be subject to all the delays, uncertainty, and expense which a compensation law avoids."

At the same time that Mr. Justice Van DeVanter announced the decision of his court in the Winfield case, Mr. Justice McReynolds in the case of Marie Jensen v. Southern Pacific Railroad Company decided that the jurisdiction in all maritime matters is exclusively Federal and that the Workmen's Compensation Acts of New York are unconstitutional and invalid insofar as they attempt to invade that jurisdiction. In other words, this Court then decided that inasmuch as the Constitution had given the United States Courts jurisdiction over maritime matters that all activities in connection with loading and unloading ships in navigable waters must be referred to such Courts and could not be considered by workmen's compensation tribunals. The last Congress undertook to meet that decision as follows: "To amend sections twenty-four and two hundred and fifty-six of the Judicial Code, relating to the jurisdiction of the district courts, so as to save to claimants the rights and remedies under the workmen's compensation law of any State.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That clause three of section twenty-four of the Judicial Code is hereby amended to read as follows:

"Third. Of all civil causes of admiralty and maratime jurisdiction, saving to suitors in all cases the right of a common law remedy where the common law is competent to give it, *and to claimants the rights and remedies under the workmen's compensation law of any State:*

of all seizures on land or waters not within admiralty and maratime jurisdiction; of all prizes brought into the United States; and of all proceedings for the condemnation of property taken as prize."

"Sec. 2. That clause three of section two hundred and fifty-six of the Judicial Code is hereby amended to read as follows:

"Third. Of all civil causes of admiralty and maratime jurisdiction, saving to suitors in all cases the right of a common law remedy where the common law is competent to give it, *and claimants the rights and remedies under the workmen's compensation law of any State.*"

It is now proposed to extend the benefits of workmen's compensation to injured railroad men by the following Act:

AN ACT

"To amend an act approved the twenty-second day of April, one thousand nine hundred and eight, entitled 'An Act relating to the liability of common carriers by railroad to their employes in certain cases.'

"Section 1. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the act approved the twenty-second day of April, one thousand nine hundred and eight, entitled 'An Act relating to the liability of common carriers by railroads to their employes in certain cases,' is hereby amended by adding thereto the following section:

"Section 10. The provisions of this Act do not prohibit an agreement between a railroad engaged in interstate commerce and its employe, whereby the railroad agrees that its liability for injuries received by the employe, whether resulting in death or not, may, at the election of such employe, or, in case of death, at the election of the dependents of such employe, be determined under this Act or adjusted and paid under the Workmen's Compensation Law of the State of which the employe was a resident at the time of the injury.

"In every contract of hiring made after the approval of this amendment and in every contract of hiring renewed or extended by mutual consent, express or implied, after the passage of this amendment, it shall be conclusively presumed that every such railroad company has agreed with its employe as hereinabove provided unless there be, at the time of making, renewal of extension of such contracts, an express statement in writing from either party to the other that the Employer's Liability Act of Congress shall be regulative of the carrier's liability or obligation in every instance where the carrier and employe are both engaged in interstate commerce at the time of the injury or death of the employe.

"Notice of the election of the employe or of his dependents shall be given in writing by the employe or someone in his or her behalf, or by some of the dependents or some one in their behalf, within ten days after the accident. If no notice is given as aforesaid, it shall be conclusively presumed as an election to proceed, if at all, under the Act of Congress to which this is an amendment.

"It is hereby declared as the intent of the Act to which this is an amendment, that the provisions thereof do not constitute an exclusive regulation of the carrier's obligation or of the employe's right to compensation whenever the railroad engaged in interstate commerce has agreed with its employe, as aforesaid. In the case of such an agreement, the carrier railroad shall, and in the case of elective compensation laws, may be subject to such laws as if such carrier were engaged in intrastate commerce."

In other words, amendments were proposed to the Act of Congress of 1908, ordinarily known as the Federal Liability Act of 1908, to which I have adverted several times in this paper, and it is proposed to have this Act passed by Congress so that in the case of injury to the railroad employe he or his dependents or his representatives may, within a certain time after the injury is received, file with the railroad company a written election announcing whether he proposes to proceed under the Federal Liability Act of 1908, or if he elects to take the alternative and proceed under the Workmen's Compensation Law of his own particular state. In such an event the employe will first have the opportunity of considering whether or not in his particular case he was injured by the negligence of the fellow-employe or some of those having the management of the rolling stock of the company in charge. If he makes up his mind that his accident is merely one of the usual and ordinary risks of employment, without negligence, then he can turn to his state compensation law and proceed as his neighbor may proceed who is engaged in any of the industrial pursuits of the state.

Legislation of the foregoing character has the endorsement of the railroad organizations that seek the advancement and betterment of the men engaged in the various occupations incident to railroad operations. I believe that the objections which might be urged against this legislation that it would not be inclusive of all the States of the Union—cannot prevail inasmuch as I believe that public sentiment will soon bring about the adoption of some form of workmen's compensation laws in all the States of the Union and that nothing will aid to this impelling force of public sentiment with greater promise of successful conclusion than to place behind this propaganda the united efforts of the more than 2,000,000 men engaged in railroad occupations. I would not be doing my full duty in closing this paper did I not again pay a tribute to the wide and humane policy adopted

and pursued toward this class of cases by the Pennsylvania Railroad. at the time I wrote the original opinion on these cases, I then said of this company: "Thus a great corporation engaged in interstate commerce has recognized the utility of our compensation scheme, and in a spirit of modern humanity has declined to enter technical defenses but has adopted a broad gauged plan of applying our law and at the same time protecting itself against another doubtful, uncertain, and unsatisfactory liability created by Congress."

These observations were justly merited at the time they were first written and there has been nothing in this company's method of handling these cases since the decision of the Supreme Court in the Winfield case to cause me to retract or to modify them at this time. This company has recognized the benefits of the workmen's compensation law and is affording its employes its manifold advantages. It evidently thoroughly believes that the time will shortly come when some legislation will force all railroad companies to adjust their accidents to their employes in some manner as I have outlined and is merely anticipating future events and has inaugurated a complete system in advance.

CHAIRMAN BRYANT: Mr. John C. Rose, Chief Claim Agent, Pennsylvania Railroad Company, Philadelphia, Pa., is to lead the discussion on this paper.

I take pleasure in introdueing Mr. Rose to you.

MR. ROSE: Ladies and gentlemen, like the last two speakers I have seen fit to put on paper the brief discourse I shall make upon this topic of Mr. Mackey's; perhaps not for the same reasons. I find it convenient, in the event of losing one's place or an interruption to be able to proceed without starting all over again. Another is that in the after-criticism I may have proof of the limits of my liability, and then that I may know when I am through and sit down.

However, I am going to make this statement and I think it is due me, that after I had been assigned a part on this program, and had prepared a quite orderly paper and carefully committed it to memory the topic was shifted by some one and I was at the last moment advised that I should respond to the address of Mr. Mackey.

There is very little I can add to what Mr. Mackey has said except this: The most recent decisions of the United States Supreme Court have brought within the state compensation laws a very large percentage of railroad work—I should say on the Pennsylvania Railroad, in all occupations, perhaps not less than fifty per cent. of the employes are now subject to the state compensation law whereas it was felt originally that not more than ten per cent. came within the act. The recent case of Winters decided that question. Winters was a repairman in the roundhouse and a locomotive was brought in from an interstate commerce run. It was there a few hours and while undergoing repairs Winters was injured. The locomotive went out into service of interstate commerce as it happened and the Supreme Court in reviewing that evidence said that when Winters was injured the locomotive was performing no service and Winters, therefore, was entitled to the benefit of the Federal Employe's Liability Law. There are others that have been decided by the District Court which are quite as strong and therefore we feel that there is a very much greater number of men subject to state law than there were before the interpretation that I referred to.

RAILROAD EMPLOYES AND WORKMEN'S COMPENSATION LAWS.

By JOHN C. ROSE, Chief Claim Agent, Pennsylvania Railroad Company, Philadelphia, Pa.

Railroad employes are subject to state compensation laws, except at such times or on such occasions as their work is in furtherance of interstate commerce, and also, possibly, when an accident occurs by reason of the failure of certain appliances specifically subject by statute to Federal regulation, such as brakes, automotic couplers, and grab irons. The Federal Employer's Liability Act, approved April 22, 1908, provides a remedy for men engaged in interstate commerce on railroads and while so definitely employed, in substitution for common law rights and statutory remedies of individual state making. It removes the defense of negligence of a fellow servant and substitutes for the defense of contributory negligence the doctrine of comparative negligence, the theory of which is that the proportion of negligence which an employe may contribute can be determined in dollars and cents in its relation to the whole damage.

To the railroad employe not engaged in interstate commerce, or rather to the person who, when injured, shall be employed in work in no wise associated with commerce between the states but in work purely state or intrastate in character, the Workmen's Compensation Law fully applies.

There is in many cases the difficulty of differentiating between state and interstate service and therein lies the chief perplexity of the railroad company, and also of its employes in the desire to comply fully with the laws to which they severally and jointly are subject. As the Supreme Court of the United States from time to time interprets the law new light is shed upon the question of jurisdiction, the problem becomes simpler, and eventually it is expected will fully be solved. But until the Supreme Court shall have decided all the mooted questions in the law there will occur these differences of opinion as to jurisdiction.

The Federal Employer's Law is an exclusive remedy and brooks no substitution in the nature of an agreement between master and servant upon another remedy which might be more agreeable to both parties; and in that interference with individual rights and personal liberties arises the difficulty which prevents the enactment of a state compensation law which shall include all citizens of the Commonwealth.

The Pennsylvania Railroad Company is paying all its employes compensation benefits provided in the State law without regard to the distinctions of employments referred to, and I can say that from the experience of nearly two years the company sees no compelling reason to change that attitude. There have been instances where employes have sought the remedy of the Federal Law quite speculatively in preference to the compensation law, but the number is small in comparison with the thousands who have met the company fairly, and who by their conduct have shown appreciation of its generosity. The continuing of this attitude by the Company will depend almost entirely upon the future conduct of the employe. Whether, by reason of the action of employes in seeking the Federal remedy in preference to the compensation law, the company, shall feel compelled to recede from the position of paying compensation in all cases regardless of jurisdiction, is a matter very much in the control of the employes. It must be perfectly clear that the employer cannot with consistency or propriety continue to pay compensation benefits in all cases, as is now being done although there is no legal obligation for such action in more than half the number, if the employe shall exercise his choice of remedies with more freedom; or, if there shall be continued the effort to enact legislation giving to the employe a choice between trial by jury with virtually all defense removed and compensation benefits, whichever remedy appears to him as the more favorable to his interests regardless of the interests of his employer. The evil effects of such a law would eventually be felt by both employer and employe, and in its antagonism to the basic principles of compensation would bring about a return to the ancient common law conditions.

This brings us to a consideration of the causes and effects of accidents growing out of the industrial conditions of the time, and of the increase in number of accidents, which experience is entailing such a great financial burden upon the employer that it may affect future legislation on compensation, even to a modification of the schedule of benefits or the adoption of a form of remedy by amendment which shall place a penalty upon acts of gross negligence, and will also differentiate between the honest claimant and the malingerer.

Permit me now to digress just briefly on a thought that is quite in harmony with the labor question as affecting the railroads in their problem for help.

All industrial life now is seriously affected by what is termed the labor turnover. In a recent address Mr. Rea, President of the Pennsylvania Railroad Company, stated that during the year 1916 out of the 146,438 employes, which was the average per month for the year, 121,477 were new workers, and for the first eight months of the present year when the average number was 154,971, new men were repre-

sented to the number of 115,749. This shifting of the working population is an evil which invites or causes accidents more than any other element of the industrial safety problem, even more than the speeding up associated with the increase in the demands upon all producers. There is in all industries a greater shortage of labor than the country has ever before experienced. Our normal net increase in population of the laboring classes by immigration of one million persons per year has, in the past three years, virtually been wiped out, and considering the number of persons that have returned to their home lands in response to the call to the colors, and also taking into account the men removed from industrial pursuits by summons to military service and other war duties, it is quite accurately calculated that there are five millions fewer working men in the country today than there would have been had the war never been started.

A coal operator told me last week that the output of his mines decreased twenty-five per cent. during the past twelve months, chiefly on account of lack of men, some of his mines actually being closed for that reason; that under normal conditions his output amounts to four million tons per year whilst now there is great difficulty in obtaining sufficient labor to produce three million tons—and this when there is need for double the supply in order that manufacturing establishments may meet the increased demands upon them.

The grain fields of the entire country and the rice, sugar, cane and cotton fields of the south and southeast with the mines are crying for help in order that there may be produced the food, fuel and clothing essentials sufficient for our own necessities and adequate for the needs of our Allies. The industrial situation has become so acute that we are now imposing upon the women of this fair land burdens of hard labor in most inappropriate vocations, which to me seem a reflection upon our foresight, our courage, and our manhood.

Under the labor conditions existing at this time, and with which we will surely be confronted during the coming two years, if the war shall last that long, and even during the year we are now approaching, there will be, in a failure to heed the warning and apply a remedy to the situation, a shortage in the actual necessaries of life with real suffering among our own people, our Allies and our soldiers.

The remedy for the evil or the solution of the problem is in the distribution of our laboring forces in such manner as will meet the urgent necessities of the hour as determined by the authorities at Washington, and also the adoption of such regulations by the Federal Government as will bring into industrial life the great mass of idlers that toil not at all. Thousands can be gathered from the street corners and saloons of all our large cities and put to work upon the land producing food stuffs for the benefit of all, even including themselves. But the greatest need is for an increase in our laboring class

and we have the choice between the indifferent workman from over our southern border, more negroes, or the most efficient servant from the Orient. There is no doubt in my mind as to which it should be in this time of our great need.

In an editorial article in a recent issue of a leading newspaper, entitled "Where Shall We Get Labor," written in the spirit of the small boy who pokes with a stick at a toad and at the same time experiences great fear lest the monster will turn and bite off his leg, it was suggested that Chinese be imported for the labor emergency, and we have from other sources a like approach to or suggestion of the true remedy. Dr. Hillis, from old Plymouth Church pulpit, a Sunday recently, eloquently endeavored to bring to his congregation a realization of the peril confronting the country in the existing labor crisis. "We do not want," he said, "to impress slaves but fortunately our Government can, if it desires, enact a law that will enable the President to contract with China for one million or two million men to come into our western farms and remain there until six months after the war."

As a matter of fact we actually need at the present time five millions of men rather than one or two million with increases during the next two and three years, and even for some time after the war is over, in our fields and in the mines, and China can supply the number and many more richly experienced in rice growing, sugar planting, grain cultivating, and mining. It would, of course, be impossible to bring across the sea within a few months the millions now needed, but the immediate action Dr. Hillis urges would go far toward relieving present conditions and continuing the utilization of all available Pacific ships, which is his recommendation, in fair time all our needs would fully be satisfied. Just a year ago in this Hall I commented upon the evils then attendant upon the high price of wheat which had just reached two dollars per bushel and I will repeat just one paragraph from that address as in line with the suggestion of Dr. Hillis:

"We need not open our doors wide, but could take in each year a sufficient number to supply the industrial requirements. We do not create or develop a labor class of our own, but in all the history of the country have depended upon foreign lands to supply that need, beginning with the importation of the negro slave."

History tells us that the greatest prosperity of this country has been when we have had one dollar wheat, ten cent cotton, five cent sugar, and five dollar coal. We now have two dollar wheat and over, twenty cent cotton and higher, sugar approaching ten cents per pound, and coal at the exorbitant price of ten dollars per ton, to the injury of even the producers of those commodities and to the benefit only of the food and fuel speculators. The burden is greatest and the suffering most keen among those of moderate income.

In the readjustment which shall follow this conflict there will be a reckoning for those nations which have not met all moral issues frankly and courageously, and the opportunity is ours to attain the supremacy by the exercise of providence in the solution of the labor problem, but if we shall avoid the obligation that place in the sun shall be lost to us forever.

It is asked what shall become of the men whose places the Oriental will take, and my answer is: There is labor at a higher wage for every man now working in the mines, for every hand now employed in the wheat field, the cotton field, and on the rice and sugar plantations, in the manufacturing concerns crying for help at better pay. With one dollar wheat, ten cent cotton, five cent sugar, and five dollar coal, which the employment of the Chinese will insure, we shall not only win this war but will leave to posterity a heritage of honor and credit and not of dishonor and everlasting debt.

I ask for frankness of the press in dealing with this question and courage of our Statesmen in giving us the legislation which shall accomplish the full purpose. Finally, I take hope in the hour from the address of our President made in Buffalo on the twelfth of this month, especially these words:

"If we are true friends of freedom—our own or anybody else's—we will see that the power of this country and the productivity of this country is raised to its absolute maximum and that absolutely nobody is allowed to stand in the way of it."

CHAIRMAN BRYANT: Mr. George B. Rowand, Chairman, State Legislative Board, Brotherhood of Railroad Trainmen, Harrisburg, Pa., will now continue the discussion of Mr. Mackey's paper on "Railroad Employes and Workmen's Conpensation Laws."

I take great pleasure in introducing to you Mr. Rowand.

RAILROAD EMPLOYES AND WORKMEN'S COMPENSATION LAWS.

By GEORGE B. ROWAND, Chairman, State Legislative Board, Brotherhood of Railroad Trainmen, Harrisburg, Pa.

Mr. Chairman, ladies and gentlemen: I assure you that it affords me great pleasure to come here and address you on this important occasion.

As a member of the transportation brotherhoods of this country I represent those who man the trains that transport our products from one point to another; naturally, I am much interested in this "Safety First" movement.

These transportation brotherhoods, I may say, are great "Safety First" committees, in that they have been from the time of their inception, striving to establish "Safety First" measures—the things that would safeguard and protect life and limb.

These brotherhoods have not only striven to adjust "Safety First" measures with the management of the railroads, but have entered the several State Legislatures and the Federal Congress to have established laws to safeguard the lives of trainmen.

I have listened with much interest, to the address of Mr. Mackey, who, I feel, has presented the situation very clearly with respect to that which devolves upon the Legislature in the enactment of laws which shall safeguard and protect the dependents of those who man the trains, namely "Workmen's Compensation Acts."

'Tis true, that the railroad men of our State feel the loss of the benefits of the Workmen's Compensation Law. As Mr. Mackey has informed you, the Supreme Court of the United States has declared that those who are engaged in the operation of railroads handling interstate commerce do not come within the provisions of the State Workmen's Compensation Law, and because of that fact, they are deprived of that protection.

Recognizing the importance of the Workmen's Compensation Law, the representatives of these brotherhoods, have had drafted and presented to the Federal Congress a bill to amend the act of 1908. If it had been passed and adopted it would have given railroad employes the right to elect either the Federal Law or the Workmen's Compensation Law of the State for the settling of claims for injuries received. This, we believe, to be a just and fair amendment, but very much to the disappointment of those interested, this bill passed the last house of Congress, and died in the Senate with its adjournment.

The International Convention of the Brotherhood of Railroad Trainmen, held at Harrisburg, Pa., May, 1911, went on record unanimously endorsing a Federal Liability Law, and the Workmen's Compensation Law, and through their efforts the Federal Congress appointed a commission to make a thorough investigation of the subject, and the result was the amendment of the Federal Liability Law I previously mentioned.

The transportation brotherhoods fully endorse a Compensation Law, and are striving to have the railroad employes brought under its protection whether it be state or national, because they believe it to be right and just that they, as well as other classes of men who serve and give their labors to society, should have protection.

The Workmen's Compensation Law, we believe to be a step in the right direction, even though we feel that the compensations are not, as yet, sufficient to properly care for the injured and the dependents of the injured.

It is a pitiful sight to witness, and it has been our experience to witness, so many cases wherein men engaged in the manning of trains have been injured, maimed, or killed; and the widows and orphans—the dependents—left without any redress except the courts, which meant, in most instances, long drawn out litigation; and in many instances, where it was not possible for the injured to prove non-contributary negligence, no compensation.

It is very commendable, indeed, that some of the railroads of our State have recognized the benefits of, and are now settling claims under the Workmen's Compensation Law. This means that they themselves recognize the benefits of this most important law, and it is to be hoped that all the railroads will in the very near future, see the wisdom of doing likewise.

The railroads are presenting a very commendable spirit in this terrible war's crisis, and the employers, particularly the transportation men, are no less to be commended. There are no classes of men, that are more ready and willing to do their duty and serve their country's call than those who man the trains that transport our products from one point to another that those who are at the front and in the trenches may be supplied with all necessaries incident to their duties. This terrible war has brought to us many difficult problems, and in order to solve these problems, the railroad men of this country are at the nation's call, regardless of what sacrifices they may have to make, or what hardships they may be called upon to endure. But they are of the opinion that during such time as is necessary to preserve the nation, there should be no infringement upon the Safety Laws that have been established, and there should be no slacking of the effort to establish laws that will bring to all the people peace, happiness and comfort.

CHAIRMAN BRYANT: Are there any questions any one would like to ask or any further discussion of papers or addresses of the evening? If not, I thank you all for your kind attention and the meeting will stand adjourned.

THURSDAY, NOVEMBER 22, 1917.

Morning Session—9 o'clock.

Chairman, WILLIAM YOUNG, Chief Mediator, Bureau of Mediation and Arbitration, Pennsylvania Department of Labor and Industry.

It is not my purpose to talk at length upon any particular subject, but I want to avail myself of this opportunity to say a few words about safety committees, and to touch upon the work of the Bureau of Mediation and Arbitration.

There are movements on foot in a number of the largest industrial plants in the State to permanetly establish effective safety committees; the workmen working in conjunction with the employers, whereby the number of accidents occurring daily throughout the Commonwealth of Pennsylvania may be reduced. In such establishments the committees are sometimes composed of three workmen, sometimes a foreman is a member of the committee, and oftentimes one of the executives. These committees meet weekly, or oftener if necessary, to take up whatever phases of accident prevention they regard as worthy of attention.

In the Cambria Steel Company—I cite this as one of many instances—they have a number of safety committees, and so as to keep alive the interest, give them bonuses, changing the personnel of the committee every three months, to the end that accidents will be curtailed, and, if possible, eventually eliminated. I regret to say, however, that even in some of the largest industrial establishments in Pennsylvania no attention worth speaking about is paid to safety-first measures. Recently I heard of a large plant, in which four or five men have been killed within a few weeks, and in which great numbers are daily being injured. If proper steps had been taken to have a competent safety man on the job and efficient safety committee work carried out, I believe many of the accidents that have occurred there could have been avoided. This is one of the unfortunate difficulties with which we are confronted.

A long process of education is involved in this work; education not only for the employe, but also for the employer, yet, I believe that with a determined effort the present lines can be so extended as to cause employers and employes generally to realize that the more attention they pay to accident prevention the better it will be for all concerned. If we could have a parade of the persons injured in one month in the State of Pennsylvania, instead of having merely the figures in cold type, I believe many of us would have a better conception of the seriousness of our problem. It takes something in tangible form oftentimes to wake us up. We note the figures, of from eighteen to twenty thousand injuries during the course of a month, and frequently, that is all. But, as I have said, could we let that number of injured persons pass before us in review, we would undoubtedly appreciate the vital necessity for putting forth the greatest efforts of which we are capable in accident prevention work.

One of the speakers yesterday said the matter of safety-first education should be taken up in the public schools. This subject has often been brought up at meetings of the executives of the Department, and I believe steps will soon be taken, in conjunction with the Department of Public Instruction, with that end in view, in order that the coming generation will be more fully enlightened as to the dangers

which daily confront them in their various walks of life. In the pictures shown last evening, some of you will recall, many of the workmen, in spite of the efforts put forth by their employers, paid no attention whatever to the warning signs, placed where danger existed in the operatiou of the machines, or in fact, to the placards which had been posted all through the plant. Should a workman meet with even a trifling injury, he would, as a rule, realize that he should have been careful, and have given some attention to the precautions which were intended for his protection. Our great problem is to make him realize this before the accident happens.

There are, no doubt, some establishments in which the workmen have given thought to this subject, but lack the initiative to take it up with their employers. Cousidering the unusual demands now confronting industry, with many establishments ou the three-shift basis, and the very large percentage of labor turnover, we must recognize that the hazard has been correspondingly iucreased. It is of the highest importance, therefore, for employers, who have not yet done so, to adopt energetic methods against accidents through the establishment of safety committees and the employment of every other available means, to reduce the toll of suffering and death.

Our compensation act is an admirable piece of humane legislation, but what is a paltry three or four thousaud dollars compared with the taking off of a father or some other beloved member of the family? The sympathy of friends is consoling, but it cannot repair the loss. Only those directly affected can feel the full force of the blow. How much finer it would have been could we have saved that life, rather than merely to be able to provide for the material needs of the dependents.

A number of branches of the Department of Labor and Industry are brought into action in co-operating with our everyday industrial life. We have the Employment Bureau to secure work for the unemployed; we have the Industrial Board which formulates the safety standards of employment; we have the Division of Industrial Hygiene and Engineering to assist the Industrial Board in looking after sanitary conditions in the workshops; and the Bureau of Inspection to see to it that approved safeguards have been provided. After all this has been done, there still remains the possibility of industrial disputes arising between employers and employes, sometimes regarding wages, sometimes about shop conditious of employment, frequently about trifling matters which might easily have been adjusted. Either the employer or the employes may be a little hot-headed, and a strike or lockout results, as the case may be. In these instances the Bureau of Mediation is always glad and willing to give its services toward the settlement of the difficulty.

The question has been asked, what can the Department of Labor and Industry do in the way of settling industrial disputes? I will say that wherever their services are accepted, no matter in what part of the State it may be, the Department of Labor and Industry will see to it that a representative of the Bureau of Mediation and Arbitration shall go there and endeavor to bring about an understanding.

In performing this work the mediator is sometimes placed in an embarrassing position. It may be the employer who is suspicious of his attempts, or it may be the employes. I heard of a case recently in which two of the Federal mediators were referred to as "paid strikebreakers," certainly not a desirable classification in which to be placed. This particular case affected some Goverument contracts, and a mutual agreement which had been reached unanimously by the representatives of all parties concerned, with the assistanee of these two men from the Federal Bureau, was upset solely by the thoughtless injection of this single unwarranted reference. But there is another side to the work. I was interested not long ago in a strike which had dragged along for several months, uutil finally the parties were brought together, and an agreement reached. The men were satis-

fied and the employer was satisfied, and a number of grievances which rankled in the minds of the workmen for several years were cleared from the atmosphere. Only a week ago I was informed that everything was moving along harmoniously and that the best of feeling prevailed.

I know that the men engaged in mediation work in this Department strive with all their power to bring about a speedy and satisfactory settlement of all disputes. Just a case in point: After the conference adjourned last evening, and as I was going into the Pennsylvania depot, I met two of the men from our Bureau. I knew they had been assigned to visit a locality in the State where a strike had been on for several days. I said to them, "How did you make out?" And they said, "Well, we got in there last night, and here we are. Everything settled up." Their faces showed plainly how pleased they were. When a mediator has done good work he feels that he has accomplished not only a duty to the Commonwealth, but that he has also assisted in bringing about better relations between employers and employes. Commissioner Jackson, who is now rendering service to the nation abroad, thoroughly instilled into all of the attaches of the Department the importance of doing everything within their power to bring these relations to the highest possible basis of efficiency.

I shall not speak further of the activities of the Department as the next Speaker will go into some of the details of the work. Mrs. Samuel Semple, whom I will shortly introduce, is the member of the Industrial Board, representing the women of Pennsylvania. We occasionally hear that women should stay in the home, and should not be running around attending to this or to that; but if all of the women who are not always at home did the same character of work as does the lady member of our Board, I only wish we could have more of them. To the consideration of every matter coming before the Board Mrs. Semple brings a ripe experience and intellectual attainments of the highest order, representing, in every sense, the best type of Pennsylvania womanhood.

It gives me much pleasure to introduce, as our next speaker, Mrs. Samuel Semple, Member of the Industrial Board, of the Pennsylvania Department of Labor and Industry.

MRS. SEMPLE: Mr. Chairman and members of the Conference, I find that it is really quite an ordeal to be asked to present a paper because on a formal occasion like this or semi-formal occasion one finds one's self between the Scylla and Charybdis of such occasions. If one does not present a formal paper one finds one's self confronted afterwards with expert stenographic notes of remarks that one wishes one had not made, and if one presents a formal paper one has the feeling that it is an exceedingly stilted performance. Having been on former occasions confronted with notes of those things that I heartily wished I had not said I thought I would choose the other alternative this time and impose upon your patience by presenting an oral paper. Without apology I shall proceed to read.

THE WAY IN WHICH THE DEPARTMENT OF LABOR AND INDUSTRY MAY BE OF SERVICE TO YOU.

By MRS. SAMUEL SEMPLE, Member of The Industrial Board, Pennsylvania Department of Labor and Industry.

The entrance of new ideas into life and government may be traced by the emergence of new words and phrases in the general language of the people. Twenty-five years ago the dictionaries were ignorant of the noun "civics," so much used today; then "political economy" was the title given to what was known as the "dreary science," the forerunner of that more understanding and much wider study of human relationships now described under the word "economics"; and though people talked of "law" in relation to many things, the term "labor legislation" was then only in the making. Today, few public gatherings that have a civic meaning, and surely none that bear upon any phase of the great science of economics, would omit discussion of some form of labor legislation. Thus is indicated with triple emphasis the new wave of public and democratic sentiment that has stirred our common life during the last quarter of a century. Civic interest, the broad study of inter-related human welfare, and the increased legal emphasis on humanity, rather than property, are undoubtedly distinguishing marks of the present day viewpoint.

Under these, the development of what is known as labor legislation has been rapid, first in Europe, more lately on the western continent. While the development in the United States has been steady, and fairly satisfactorily matched by law observance, it must not be forgotten that Canada and also certain of the more progressive Latin-American republics have shown their full share of interest in this modern work. Practically all the states of our federal union have now some form of labor legislation and some form of organization—a bureau, a department, a board or commission—for the administration of such labor laws.

The work of these bureaus or departments in the different states varies slightly; but, in broad outline, is the same. They are called upon to administer laws that have to do with human welfare in connection with the great project of earning a living, especially where that living is rated in terms of wages. In the earlier days of such law making and law administering, the thought was mainly protection for the worker and to secure this the labor departments were invested with restrictive police powers. In this, Pennsylvania was no exception; and the Factory Act of 1905 was, in its essential nature and

purpose, a police act for the benefit of those employed in the Commonwealth. Larger vision came with years and experience, and laws of a broader tendency began to appear on the statute books of the country. In Pennsylvania, the Act of 1913, which created the present Department of Labor and Industry, while it did not fail to continue police duties and powers for the benefit of the workers, nevertheless put them in connection with the great constructive and co-operative principle which is indicated in the very title, "The Department of *Labor* and *Industry*."

The service that this Department of Labor and Industry may render you is determined primarily by the lines along which the Department was created and its activities planned. A study of the creative act reveals that it was passed along large lines. It was intended that the department should be in first-hand touch with the whole industrial situation of the State, and to that end it was stipulated that no one central office, dependent upon paper reports, should be deemed sufficient. In the large industrial centers of the State offices should be established and maintained that there might always be a ready path for the public to the very center of the Department organization. The Act further stipulated the character and adjustment of the inspection of industrial conditions that is to be carried on by the Department. The provisions guarding the assignment and shifting of the inspection force are such as to provide, so far as humanity may, for alertness, for the avoidance of narrow lines of work, and for the bringing in of expert advice, even to the point of trained medical and hygienic knowledge to be applied through the Bureau of Hygiene, to the conduct of the work of this great industrial State. While the original Factory Act of 1905 had almost wholly the police point of view, and while the Act creating the Department of Labor and Industry reaffirmed in unmistakable terms the possession of police powers, yet even in stating and describing the duties of the Bureau of Inspection, in which the police powers center, the real point seems to be the desire to investigate, to know, to advise, to help, and to bring about a wise and logical development. It is the modern statement of the old teaching that the law is not a police officer but a schoolmaster to bring us to better things.

This desire to know the facts as a basis for further work is frankly stated by the law in the duties outlined for the Bureau of Statistics and Information, and, later, that division of this Bureau which deals with the work of Municipalities. The whole structure of the Industrial Board rests upon the foundation of the obligation to discover the truth about industrial conditions in the State, about the laws affecting them and how those laws work out in practice for all concerned, about what further laws are needed, and about how industrial development should be guided.

Even when industrial difficulties, commonly known as strikes or lockouts, shall occur, this same desire to know the facts as the best basis for helpful service is manifested in the Act as it sets forth the duties to be performed by the Bureau of Mediation and Arbitration. Please note the significant point that Mediation—that kindly human service of bringing differing opinions face to face for temperate discussion—receives the first position in the plan as set forth in the law. It reminds one of the saying from Charles Lamb which President Wilson cited the other day at Buffalo, when that gentle philosophic Englishman stammered out that it was "impossible for him to hate a man he knew."

The original Act creating the Department of Labor and Industry, has been, as you know, supplemented by legislation which has placed other duties within the general circle of the Department—the creation of the Workmen's Compensation Board with all its ramifications, and the establishment of the State Employment Bureau, located within the Department of Labor and Industry have both carried out the constructive line of policy that distinguishes present day legislation. Police functions accompany each one of these branches and must from time to time be exercised; but the dominating idea is a policy of construction and development and not of restriction; of helpfulness and service to all factors involved in the industrial life of the State, not of carping criticism that leads to nothing.

The ready pen of a writer of advertisements would serve this occasion well in the way of terse statement as to how the Department of Labor and Industry may be of service to you. Lacking that, let us, by way of illustration take the case of a man "somewhere in the United States"—in that No-Man's-Land lying outside the boundaries of the Commonwealth of Pennsylvania who finds his heart turn with longing to this State of iron and steel and oil, and who decides to make the venture of business life within these borders. Does he wish to select a location in the State? Let him send for a copy of this Department's Industrial Directory, where he will find the counties scheduled as to natural resources and products. He may there study out the fuel and transportation facilities that may be within his reach at any given spot; he finds whether he may secure his raw material or his semi-manufactured material from within the State on a short haul, or whether he must send outside to secure it on a long haul. He may learn from the Directory how many others in the State are already engaged in the business that he proposes to take up, and may thereby become aware of the competition he must meet. He may also determine how large a purchasing public will be at his doors and what distributing firms are within the State where he may reach them easily.

Having made his selection of a location for business he may again turn to the Department of Labor and Industry for a copy of the Labor Laws of the State that he may make his plans in harmony with legal requirements. He finds that the Department from its experience is able to give constructive criticism on the plans for his buildings which he submits. It can advise him as to overcoming fire risks; it can suggest to him, as his plant develops, the proper location and guarding of machinery; it can give him the best plans of lighting and of ventilation suited to the industry; it can teach him to eliminate dust and fumes; it can tell of the best practice in guarding danger points that cannot be entirely eliminated. Its Bureau of Hygiene will, if he desires, send expert advisers as to general sanitation, over and above that relating to the ordinary sanitary equipment; and even the subjects of industrial diseases and industrial accidents and their prevention are among those on which he is privileged to ask for help. When his business is in full running order, the Department will send him its monthly Bulletin to keep him in touch with the latest information on industrial matters in Pennsylvania.

When labor is needed the Department's Bureau of Employment may be called upon to point the workers to the work. Even if they are not to be found in the immediate locality the Employment Bureau will put its services at our friend's disposal to secure workers from other locations where they are not needed. When the workers are installed the Department remembers that even its accident compensation work is only one side of the story, and that a living and unmaimed worker is a greater help and credit than a satisfied claim for compensation; and with this thought in mind it will send some one to help organize a safety committee in our friend's new Pennsylvania plant. To stir this interest it is even prepared to send a lecturer and motion pictures of safety work, that the advantages of such education and the need for it may appeal to the reason through the eye and the imagination.

If later on, misunderstanding should arise between our friend and his hired helpers in his new business, resulting in a strike, it would be the pleasure of the Department's Bureau of Mediation to patiently give time and effort in the endeavor to bring about a better understanding in order that the business of the Commonwealth may not be interrupted and that peace and harmony may prevail.

Or suppose that, instead of the case of our friend from "Somewhere in the United States," who has capital to invest, and trained business ability to bring into the State, we look at the case of one of those inarticulate workers who come to us from "Somewhere on the Other Side." What service may the Department of Labor and Industry render to him? It can protect him from exploitation by un-

scrupulous employment agencies or by unthinking employers; it can point him to a livelihood, while it makes him known to an employer who needs his labor; in time of strike or lockout it can help to keep him from misunderstanding the point at issue, so that he may not be the prey of those who would use him for their own ends. If in the process of industry he should become a cripple, the Department will see that the legal compensation for his injury is forthcoming, and that his family is thereby removed from the verge of want. And what the Department desires to do for this foreign workman, it holds itself pledged to do also for every worker who is engaged in the business processes of the State.

Or suppose that it is a woman who asks what service the Department of Labor and Industry may render her. Through the Employment Bureau it can help her to find work; when she goes into an unaccustomed occupation its Bureau of Hygiene can precede her and see that proper arrangements are made for her reception and accommodation. Through its Inspection Bureau it can see that the laws made for her benefit, and through her for the benefit of the race, are observed, and can watch to see where she needs further care and protection. If she is a woman who has lost her support and that of her children through the death of her husband, the wage earner of the family, in an industrial employment in the State, the Department's Compensation Board will see to it that she receives proper consideration, and that she is not left without financial support.

Suppose it is a child who asks the ever recurring question as to the service of this Department. There the answer must be that the Department of Labor and Industry joins hands with the Department of Public Instruction to see that that child has a chance for unhampered growth and for educational training, that he may be fitted for citizenship and life as becomes a child of Pennsylvania.

To sum it all up the Department of Labor and Industry, by the intention which created it, by the tasks of law enforcement that have been handed over to it, and by the vision of the possibility of labor and business co-operating in a great State like this, is pledged to the service of every man, woman and child in the Commonwealth who is in any way associated with the industrial life and processes of the State. That this task has been accomplished in its fullest outline no member of the Department would claim today; but that this has been the ideal constantly before the members of this circle of servants of the State is something that the Department realizes in its inmost heart. Many things that would gladly have been done for your service have been untouched because of the press of other work; and certain things that were in mind as possible lines of service to be opened up soon have been of necessity set aside for the present, because of the war. As an example of this last it may be worth while to

hint at a plan that was in the mind of the Commissioner of Labor and Industry during the last few months, before he was called to other endeavors. He had hoped that, in this State, work might be instituted similar to that which the Dominion of Canada has recently set on foot whereby industrial investigations involving the possibility of future development might be undertaken. Canada is doing much in this way to bring about the full use of her resources; and although Pennsylvania is infinitely further advanced in that line than the Dominion, there is, nevertheless, room for much such work in this Commonwealth also. Unused resources lie about us on every hand. It is the privilege of this Department, and it will become its duty, to help to plan for such development when in the future industrial conditions have quieted down from the strain and stress of war.

We are at the opening of a new era in the whole thought of business and industrial life. Time was when the fact that a child was born into a certain home eliminated from the rest of the world the feeling of any responsibility for that child. Today we have passed away from that point of view and it is recognized that if the home into which he was born is not such a home as to contribute to the real welfare of that child it is some one's duty to see that he is removed from its influence. To such an extent has this thought developed that today the State has no hesitation in stepping in to break up an undesirable home and place the children under proper conditions. In like manner we have reached a new thought on the subject of schools. School is no longer considered to be merely a place where the mechanics of education are given. Schools today are sharply criticised unless they register themselves in better lives and higher characters. Keeping step with these developments comes a new thought as to employment. We are beginning to see that unless industry can send a man or a woman or a child home at night better than when that person entered the industry in the morning something is fundamentally wrong. It is the dawning of this new idea that has roused the public consciousness to the point where labor legislation is one of the marks of the time. That section of labor legislation which has created organizations like the Pennsylvania Department of Labor and Industry really lays upon these Departments the responsibility of trying to bring about a general recognition of this new thought concerning the work of the world. This is bigger and finer than police power. This is a task that calls for all the devotion of the men and women engaged in it. It is indeed a task so big and so fine that its accomplishment would be utterly hopeless except for the co-operation given by the big and fine men and women engaged in the labor and in the industry of the State. After all, the answer to this question, how the Department of Labor and Industry may be of service to you must come from yourselves, the people engaged in the labor and in the conduct of the busi-

ness of the State. It will be answered just so far, and in just what way you accept the service which the Department proffers to you. Understanding on your part has never been lacking as to the thought which this Department has in mind. Today in the stress of unusual conditions we turn to you once more to offer you our help and co-operation and to ask for yours. Much has been said of the war-time task, great as it is and it is tremendous, the biggest task that confronts us all today is that of maintaining Pennsylvania at her highest not only in efficiency, but in ideals. After every war on record there has come of necessity a period of reconstruction of the civil and industrial life of the nation. Already in this country, and in this State we are talking about getting ready for that reconstruction of men and of industry. Perhaps there may be given to us all; to you, the leaders of labor and the leaders of business and to us of this Department in this time of need a vision of service so vital and so beautiful that it may mean a continuous construction of the highest things in the labor and industry and life of this State; and if we have a continuous construction of these things to be ultimately desired we may perhaps escape the bitterness and pain of a needed reconstruction. This is the thought as I understand it that has lain in the mind of Commissioner Jackson; and today in his absence I believe it is the thought that lies in the mind of the Acting Commissioner and of every member of the Department whose duty it has been not to go to the front "but to stay by the stuff." With this as the ideal of the Department and recognizing that it is undoubtedly the ideal of all those who desire the best things for life and work in this State we, members of the Department of Labor and Industry, describe ourselves as your servants, for the sake of Pennsylvania and of the Nation.

CHAIRMAN YOUNG: The discussion of Mrs. Semple's address will be led by Mr. Daniel Post, President of the Pennsylvania State Council of Carpenters, Wilkes-Barre, Pa.

It therefore gives me much pleasure to introduce Mr. Post to you.

THE WAY IN WHICH THE DEPARTMENT OF LABOR AND INDUSTRY MAY BE OF SERVICE TO YOU.

By DANIEL POST, President, Pennsylvania State Council of Carpenters, Wilkes-Barre, Pa.

Mr. Chairman, ladies and gentlemen, I have not prepared a speech upon this subject, as this is the first annual Industrial Welfare and Efficiency Conference that I have had the opportunity of attending.

The position that I held in the labor world at the time of these gatherings in previous years has called me elsewhere, hence it was impossible for me to take a part; but this year I had a special invitation from our good friend, Commissioner Jackson, to be present at this gathering, as well as one from our good Governor Brumbaugh.

We can well repeat the Chairman's remarks in introducing Mrs. Semple, "that this State should have more such women." I agree with you, Mr. Chairman, very heartily, because I was very much interested in her paper. The question at issue is very broad in scope and to answer it in a few words would be impossible—"The Way in Which the Department of Labor and Industry May Be of Service to You." I have realized in my travels over this State, and not only over this State but over the entire country, being one of the National officers of the Brotherhood of Carpenters as well as its State President, that when the Department of Labor and Industry was formed it was formed by law, and that capital and labor and all industries, men in all walks of life, women in all walks of life, corporations, no matter how large or how small, must realize that in order to make this Department a real success in conformity with the law we have got to put our shoulders to the wheel and co-operate with it in its workings. (Applause.)

Commissioner Jackson has been very close to our officers in the labor movement, as well as our good Governor, and I want to show you, my friends, what a great thing, in my opinion, this Department of Labor and Industry is and of what service it can be to you. I was born and reared in the State of Pennsylvania—my forefathers were born in this glorious State—but only in the past few years has it been thought by labor (but the lawmakers who assembled in this room years ago should have thought of it) that capital and labor in conjunction with the high officials of our State would ever assemble in the State Capitol and talk over together their grievances and discuss what should be done for the best interest of all the people. I know, if I had made the remark in former years that I was going to Harrisburg to see the Governor of the State of Pennsylvania, people would have looked at me and have thought that I was ready for the insane asylum; they would have expected me to receive no recognition. But after these departments of the State government were formed and such men as Governor Brumbaugh and Commissioner Jackson were put in the harness, all parties got recognition; and I want to say here —may God spare Commissioner Jackson to return to this State to continue his good work. (Applause.)

Your Chairman said this morning that when a mediator started out from this office to endeavor to adjust some trouble, he was looked upon as a strike breaker. No man in the harness, no man or woman who has as much education as a mosquito would ever make such a

remark about a State mediator. I consider that this Department has been a power for good in settling trade disputes between employer and employe in the State Many times I have called upon Commissioner Jackson and requested him to send a mediator to adjust, or to attempt to adjust our grievances, the grievances between the carpenters and the carpenter contractors; because sometimes a labor leader does not always have smooth sailing. Sometimes when he enters the office of contractors or manufacturers where some labor difficulty is on, their breakfasts may not have satisfied their stomachs and when he enters they do not have a pleasant smile upon their faces to welcome him; some do and some don't; some say with a scowl, "I can't meet you just now." Day after day those conferences were put off; business was stopped. I want to recount at this time one instance in the City of Pittsburgh. I believe the man in question is in this hall at the present moment. A foolish trouble it was but the longer the conferences were postponed the more complicated the situation became, the more bitter it got. Meetings were held on both sides and one said, "I won't do this"; and the other said, "I won't do that"; and consequently the mediator from the Department of Labor and Industry was sent to Pittsburgh. I have had men say to me on both sides, "Can't we settle this trouble ourselves; what is that fellow doing here?" "We can if we will get together and talk the matter over, but we don't do it." "What right has this mediator to stick his nose in?" My reply was that he was sent here as an official from this State and in accordance with the law, we must listen to the mediator representing the Department of Labor and Industry. I want to tell you that when we got into conference, through the mediator from this Department, that trouble, involving several thousand building tradesmen, was settled in less than fifteen minutes and everybody was throwing their shoulders back and saying, "What a big lot of chumps we were to allow this trouble to go this long." That is what the Department can do for us. In reversing the words, "What can we do for the Department?" I would say, Co-operation in every walk of life.

We should study the prevention of accidents and teach the craftsmen in the building industries to be careful. I was here last night and saw those pictures. They were very instructive and educational. It was a sad sight to see the pictures of those injured men. On the other hand, if we should just say "Safety first; give it a thought; watch where you are going"; the majority of those accidents would have been prevented. Do you ladies and gentlemen ever stop to think when you meet an injured man on the street, a blind man standing on the street corner selling a few lead pencils, making a little music, seeking a few pennies in order to earn a livelihood, did you ever stop to think, "Have I done my part; have I done my duty, if I had done my duty years ago probably I could have avoided that accident; probably I could have saved this man's eyes."

Mr. Chairman, I may get too length in this matter, and if I do you call a halt, will you?

I just want to show to you, ladies and gentlemen, today what the building trades are doing. Statistics show that accidents in our trades are not as numerous as they are in the coal mines and in the iron and steel industries, but somehow we have plenty of them—more than we should have—and, as the speaker has said in his opening remarks this morning, education is a great thing to open a man's eyes. I just want to state to you what this organization that I represent has set out to do. We have not accomplished it yet in this State but we have in some other states. We find that many men in the carpentry industry, after they have learned their trade, are very good in some classes of work. We find, by making a close investigation and having them appear before a committee, before joining our organization, that the knowledge of carpentry is there, the love of the work is there, but there is something lacking, and that is a little education. In the City of Chicago, where we have an organization of over thirty-four thousand men, we have established something that I do not believe was ever known in the world, and I know it has not been known before in this country:—an apprenticeship system—an agreement signed between employers and employes, or, in other words, the Contractors' Association and our organization, that apprentices must serve four years. Apprentice boys average from seventeen to twenty-one years of age; and during those four years the apprentice boys must serve three months in school each year. The best of engineers, the best of instructors are employed to teach those young men. They receive the same wages while in school during the three months of the year as they do if they are employed upon a building. Half of those wages are paid by the Carpenters' Union Organization and the other half by the Master Builders' Association. During those four years these young men get one year's schooling. It has proved so successful that contractors, wishing their sons to become active in the business, and knowing that they could not be contractors unless they had some knowledge of the business, send their sons to take this course, no matter whether they are college bred men or whether they are sons of the poorest men in the City of Chicago. They all go through the same class. On graduating days, I have been in Chicago. Eight thousand people assembled to hear those young men give a description of their work after four years of apprenticeship and a year's schooling, and show to the people of Chicago that here is a class of mechanics made by capital and labor. (Applause.)

I just want to call attention to another point on that line. Two years ago there was a strike for ten weeks over a wage question in Chicago. Conferences were held continuously. The Mayor, the Gov-

ernor of the State of Illinois, and Commissioners mingled in those conferences and they had such a love for the apprenticeship system established in that city that more than once during that entire conference of ten weeks was it said time and time again, "No matter what we do, let us not destroy that apprenticeship system." I merely mention this to show you what can be accomplished in this State if we can only get it started. Co-operation, education are great things. I am speaking from experience, being a carpenter and following the trade for years before being elected to this position and knowing what it was to go through the mill. I was taken away from school when I was young, and I have studied this question so thoroughly that I can see where the assistance of this Department in the prevention of so many accidents could be made greater to every man and woman in this state if they had that little education, that little pluck and courage to say, in a co-operative spirit, "I am going to see that the law is upheld in the State of Pennsylvania."

I just want to illustrate by telling you what happened one time on a job, the first time in my life that I was ever discharged, or, in other word, sent home. The foreman said to me, "When you can learn to do as I tell you, you can come back to work; if not, go to the office and get your money." This is what happened: two apprentice boys were building scaffolding about twenty feet from the ground. I was never a physical light weight. When this scaffolding was erected the foreman sent me and another carpenter to put on the cornice around the eaves of this building and up along the gable. He told us where our work was. We started out, and I never will forget the advice given by our late Secretary of the Brotherhood of Carpenters, P. J. Maguire, one time in talking in an open meeting. He said this: "Before you get on the scaffold see that there are enough nails in the scaffold to hold you up." I have never forgotten it and, consequently, when we were entering upon this scaffold to put this cornice on, I noticed that there were only two eight-penny nails in the arms of that scaffold, pieces nailed across two uprights. I called this to the attention of the apprentice boy who was building the scaffold further on. He said, "The foreman told me two nails were enough," I said, "It is not enough for me; I am going to put some more nails in it"; and I took my hatchet and, as a fellow says, plainly speaking, I "soaked" probably half a dozen more in. The foreman heard the conversation and he came around and said to me, "We want to use that lumber again; there is no use of your putting so many nails in there; there are enough nails." I said, "You probably want to use me again, too; I am not going to enter that scaffold with two nails in one of those arms." He said, "You will do as I tell you or you will go home." I went home and when I went to the office to get my money and the contractor heard what the difficulty was I got the foreman's job and

the foreman was discharged. (Applause.) Two weeks after that, nearly to the day, that foreman's son was killed by a scaffold breaking down with only two nails in the arm of the scaffold. He fell sixteen feet and crushed his skull. That shows to you, my good friends, what a little education and thought will do for our people. Too much of this accident prevention cannot be preached and too much of it cannot be preached in our schools and in the factories and in the employment offices and by this Department. I know it is preached by this Department; yes, and more of it ought to be preached in every church of every denomination in this county. (Applause) Why do I speak so forcibly along this line? Because I realize what this Department is and I realized last night what those moving pictures were, and sitting back there I thought down deep in my heart that if those men that were falling down into the sewer hole, that you saw being hit with a brick, avoiding signs, going and sitting under box cars on the railroad to eat their lunch, it gave me a thought and a shiver, "Have those men any education?" It gave me a thought, too, to bring to your attention, with the permission of the Chairman, that the Federal census of 1910 shows, by a report of Commissioner Claxton, that there were in the United States, of which Pennsylvania has her pro rata share, when this census was taken 5,516,163 persons ten years of age and over that could not read or write their names. Isn't that a problem to solve? Look where they would extend? In double lines of march, at intervals of three feet, these 5,516,163 illiterate persons would extend over a distance of 1,567 miles, more than twice the distance from Washington, D. C. to Jacksonville, Florida. Marching at the rate of twenty-five miles a day it would require more than two months for them to pass a given point. Men who are here to-day representing the corporations and industries of this State, I do not believe that there is a man or woman among you within the hearing of my voice who would not say that there are less accidents and better work done where mechanics in all trades have a fair school education. We are up against these problems. Last week in the City of Buffalo our noble President Wilson touched upon these points. We are in a time of crisis to-day and I want to say to you Commissioners, representing this Department, that the United Brotherhood of Carpenters and Joiners of America, with two hundred and ninety thousand men, is back of you in this State and back of this Government to see that this war is going to be a clean cut victory for America. (Applause.) We have gone further than that. We pay in our organization a national death benefit of three hundred dollars; we pay a disability benefit of four hundred dollars. Those benefits, on an average to-day, are running us between fifty thousand and fifty-five thousand dollars a month. This is what we have done: In order to protect and encourage the carpenter that is

carrying a card in our organization to offer his services to his country, we put it out to a referendum vote to change our laws to pay all men who enlist in the service, if they never return or if they do return injured so that they never could follow their trade for livelihood again, to pay them their death benefits, and the disability benefits to those that are injured, and in a vote of 110,000 men it carried over fifty to one. (Applause.) These are matters we are endeavoring to show you. Some unthinking persons want to throw the hooks into this Department, into the wheels of industry, to cause friction between employer and employe, but I want to say with my power and with my help, there never will be a strike during this war as long as negotiations can settle it without strike. (Applause.) And there is one principle of Commissioner Jackson's, that he and I have talked over many a time, and that is that when his mediators are sent out to settle a disagreement to have the men work while negotiations are pending. I want to tell you, my friends, that I take my hat off and say, "God bless the officials of the United Mine Workers of America when they kept their men working for those six months pending the negotiations of two years ago." (Applause.)

In closing these remarks I hope and trust that the officials now in harness to carry out the work of Commissioner Jackson will be spared to carry out his plans and policies, and I again assure you that you can rely upon labor, all denominations of labor, all classes of labor, from the ditch digger to the mechanic, to back this Department, to make it what it should be and to show Commissioner Jackson when he returns that we are with him heart and soul and are endeavoring to carry on the good work during his absence. I thank you. (Applause.)

CHAIRMAN YOUNG: Much as I would like to comment favorably upon Mr. Post's remarks I feel the time will not permit me so we will call on Mr. C. B. Auel, Director, Standards, Processes and Materials, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., to take part in the discussion.

MR. AUEL: Mr. Chairman, ladies and gentlemen, A short time ago I had occasion to visit New York City in connection with some safety work for several of our subsidiary companies and as a prelude thereto endeavored to secure safety literature from the Department of Labor and Industry of that state. I was told, however, that they had nothing of the kind but that some day they hoped to have. Apparently, in New York one is compelled in safety work to go as far as his good judgment will permit and then sit down and wait for some factory inspector to come around and tell him either where he got in wrong or to get a move on; and I could not help but feel that while the Department of Labor and Industry of New York State may be all right in its line, nevertheless for being constantly on the job give me the Department of Labor and Industry of our own State. (Applause.)

But getting down to the subject under discussion, it is with a real feeling of embarrassment that I attempt to say anything following so charming, yet with all, so forceful a speaker as Mrs. Semple. In fact, I am almost inclined to ask our good Chairman to put over my head a sign like the manager of a western dance hall found it necessary to put over the head of the bum pianist whom he had engaged, and whom he was fearful might incur the enmity of his patrons. The sign read, "Don't shoot; he is doing his best."

THE WAY IN WHICH THE DEPARTMENT OF LABOR AND INDUSTRY MAY BE OF SERVICE TO YOU.

By C. B. AUEL, Director, Standards, Processes, and Materials, Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa.

I have known personally nearly all and have had occasion to observe quite all of the Industrial Board since its organization and can assure you, if I may be permitted a rather far-fetched witticism, that Mrs. Semple is but a very fair sample of the others. They have handled their work in a most creditable manner and their courtesy has been unfailing under what I am sure must at times have been most difficult conditions; in fact, I want to go further and say of the entire Department of Labor and Industry, that courtesy is one of its long suits and has undoubtedly had much to do with its success.

I like the way in which the Industrial Board is made up; the supposedly varying interests being represented and I only regret the great size of the State which prevents the Board members from covering it more often so that every one interested in industrial work could meet them.

The present plan of issuing rules in pamphlet form covering the safeguarding of various kinds of equipment is exceedingly good and I trust it will be continued. The adoption of the boiler code of the American Society of Mechanical Engineers and the electric code of the National Bureau of Standards are excellent moves and it is to be wished there were more such codes that could likewise be adopted, thus avoiding the necessity of the various states having to make rules of their own, all of which work will sooner or later have to be discarded in whole or in part when national standardization does come. Since, however, rules do require to be made, I feel considerable care should be taken to see that they are thoroughly understandable; for example, in the pamphlet on "Lighting," no one I venture to say understands as yet just what is intended by that portion of the para-

graph on Emergency Lighting, which reads: "Such lights shall be so arranged as to insure their reliable operation when through accident or other cause, the regular lighting is extinguished." Does this mean extra lights or extra wiring or extra sources of electric supply or all of them or something different, and if no one understands this, how can anyone be expected to comply? Again I feel rules should not be too drastic, especially on equipment or apparatus already installed and where the circumstances do not seem to warrant. I say this with full knowledge, that money should not be considered where the life or limb of any worker is at stake; but, rules for safeguarding cannot be perfected over night, being subject to modification by experience like many other matters, even after the best of intelligence has been expended in their compilation. Such being the case, what is apparently thought to be the correct thing today is proved sometimes to be the wrong thing later, and work done in the interim is largely wasted. All safeguarding must be paid for by adding to the costs of product, and the higher the costs, the fewer the sales, the fewer the sales the less work, and the less work the more idle time for the workers. It should be borne in mind too that accidents are largely due, not to the want of safeguards but to rank carelessness and worse; for instance, in our own works, which we believe to be typical of many others, accidents due to the want of safeguards have averaged but ¼ of 1 per cent. for several years past, while those due to carelessness have averaged during the same period over 22 per cent.

In the reporting and compilation of accident statistics, it would be well to modify certain data now required as it seems to be misleading rather than otherwise; for example, on the present form of accident report, question No. 23 asks if the injured employe was a piece or time worker. The purport of this question is to ascertain if a wage system having an incentive is the cause of more accidents than is day work. The way the question reads, however, wage systems with a time basis such as premium and task systems, would be classed as time work which is entirely wrong, as they have as much incentive as piece work. Question No. 33 asks, "Was an approved safeguard in use at time of accident?" As this refers apparently to guards approved by the Industrial Board, the answer if correctly made, would almost invariably have to be "No," though many excellent guards, other than the few thus far approved by the Board, are in use, and no large employer could possibly submit every guard to the Board for approval before putting it on, no matter how desirable to do so, because many guards are built without drawings being made, so that submitting guards to the Board would involve in many cases, extra expense for drawings or models.

Aside from these suggestions there are several other items, which could be simplified from the standpoint of efficiency, especially for concerns having their own accident report forms printed.

Turning now to accident compensation, I do wish some way could be found to put a stop to the small leech lawyers who continue to prey on the more ignorant class of workers, especially the foreign element. The workers are, in many cases apparently, now being subjected to the same form of graft as were employers under the old law, such graft being extracted under the guise of advice as to how to proceed in case of accident. I am also free to admit that bad advice is a crop that seems to flourish equally well in good times and bad times alike, and the giving of it is not confined to the lawyers but is prevalent among the friends of the injured as well.

It may also not be out of place to comment on the data required in connection with the form of agreement for disability compensation. Some of it is repetitious, already appearing on the accident report and should therefore, if the methods of the Compensation Board permit, be eliminated; some of it could be abbreviated as already suggested in connection with the accident report and some of it could be transferred with advantage to the accident report, since it may be classed as original information and the best time to collect such data is at the time of the accident—not later.

Referring to the payment of compensation, cases arise where employes leave the service immediately after an accident; in fact, never report for work again and it would be well to have an understanding as to how far an employer should go in endeavoring to locate an employe; for example, an employe meets with an accident, say a cut on the hand, and reporting to the first aid hospital, receives the necessary attention, being then sent home and told to report at a given time for a re-dressing of the injury. An accident report is made out and forwarded to the Department, but the employe never shows up and the report can, in consequence, not be properly completed. If the employe lived adjacent to the works, it would of course be an easy matter in most cases for the employer to follow him up; and, as a matter of fact we try to do this, but in a district like Pittsburgh, this method is difficult to pursue, owing to the distances from the works at which many employes live.

At the present time it is quite frequently assumed by his relations and no doubt rightly too in some cases, that if an employe dies and has, during the year preceding, met with an accident, the accident was in some way the cause of his death. There is, however, no provision in the law for post mortem examinations which would many times settle any such controversy and it is accordingly suggested that consideration be given by the proper authorities to the advisability of endeavoring to secure something of this kind.

Turning to the matter of what items are compensable, I like the ruling of the Compensation Board, which now makes it possible for an employer to hire a worker already having a partial disability, with the knowledge that if a further partial disability resulting in total disability occurs, the employer is not necessarily compelled to pay for total disability. This, if I rightly recall, is quite the reverse of the opinion given out when the law was first explained to the public in the Senate chamber and will remove what has been a very marked criticism on the part both of employer and employe. I am equally frank in saying I do not like the law or the Board's interpretation of the law, whichever it may be, that says injuries resulting from drunkenness are compensable and I feel exactly the same way with respect to injuries from fighting. It is always a wise plan to try figuring yourself in the other fellow's place and then seeing what your opinion would be. I have tried to do so with respect to these items and not only am I unable to get any other point of view, but I am inclined to believe that in a "dry" community, an employer ruled against in case of an accident due to drunkenness might have good cause for legal action. Imagine a workman taking a drink or two on a cold morning just before entering a works (and in most of our towns this is not a hard thing to do, thanks to the generosity of our license courts). Perhaps he has done so because he has awakened late and has not had time for breakfast, or it may be for a variety of reasons as they are not difficult to find. In any event, he enters his place of employment perfectly sober, but the shop being well heated, he soon feels the effects of the liquor and shortly thereafter, backs into a drill press or falls on the floor sustaining a disabling injury. If I understand it aright the employer must pay compensation, because the employe was engaged in furthering the interest of the employer—think of it. I ask any of you wherein lies the logic of penalizing the employer. I am not a prohibitionist, yet should be glad to see our State go dry, but I hold that any man who drinks to excess is committing suicide just as surely (only more slowly) as if he used a revolver or the equivalent and should be made to stand the full brunt of his folly. Ask any one what to call a drunken man's entering a place full of machinery or the like, and you will receive but one answer—suicide.

Any legislation or ruling to the contrary is a distinctly backward step and is to be regretted as putting a premium on an unmoral act and nullifying in part the efforts of all concerned, the Industrial Board, employers and employes in reducing industrial hazards.

I am not going to differ with the Board or the law further but would like to state that if injury resulting from lightning is going to be classed as due to accident, we should cease to call it an act of God, since we have been taught that accidents do not enter into his work.

The situation reminds me of a moving picture film I heard of as appearing in Ohio. It was entitled "An Act of God," and immediately underneath the title was the legend "Approved by the State Board of Censors."

I have also noted the Board's ruling that the condition of an employe with respect to his health cannot be taken into account in considering accident compensation. It would be interesting to know if this applied to an individual who was found to have venereal disease (classed as immorality) to such an extent as to be totally disabled by an accident which under ordinary circumstances would cause but a few days disability, and it would also be of interest to know the Department's attitude with respect to an applicant for employment being refused employment on the ground that he used liquor.

It is items such as these I have mentioned, intoxication, pre-existing disease, also hernia, which, since the Compensation Law went into effect, apparently seldom if ever occur off an employer's premises and lumbago formerly called rheumatism but now known as sprain—it is such items as these which are hastening the day of physical examination.

The reasons already given for the physical examination of applicants for employment had to do with the applicant alone, but there are also the far more important reasons for physical examination, namely the necessity of safeguarding workers already employed, from liability to accident or sickness due to improperly qualified new comers being placed among them, as well as to the necessity of protecting the workers from themselves.

But physical examination will prove no "cure-all"; moreover, though it may be applied to the applicant for employment, it can hardly be applied regularly to all employes, especially in a large works, desirable as it might appear to do so, and it would in many cases be like locking the stable door after the horse was stolen. The workers themselves have got to be impressed more than they are at the present time with the fact that safety both with respect to health and accident, is not a one-sided affair—for the employer only—but is rather one which will require the best efforts of employer and employe if headway is to be made.

Seventy-five per cent. of the accidents in our own works occur to employes who have been less than one year in our service. If this is typical, and I believe it is, what does it mean? It means that the greatest safety device in this country is small labor turnover, a reduction in which will automatically reduce accidents almost in proportion. Does the average worker, however, give this item of labor turnover a thought as applying to him; if he does, he is apparently still willing to take a chance and look for another job. Fifteen per cent. of our accidents are due to flying objects, many of which could

be prevented by the wearing of glasses. Does the average worker ever give this a thought as applying to him? I am inclined to doubt it. Twenty-two per cent. of our accidents are due to carelessness, the result of 22 men out of 100 being continually willing to take chances. Dr. Patterson, of the Department of Labor and Industry, has said that 10 men out of every 100 have a tendency to hernia which will probably become acute by the time they reach the age of 45. How many men ever give such a matter a thought? And lest any employer of labor here becomes unduly worried over Dr. Patterson's figures, I may state there is no cause for alarm on your part, as aside from those cases which have already come before the referees and the Compensation Board, we have apparently located the entire 10 per cent. in our own works. My observation of the compensation law and the interpretation thereof, further leads me to believe that notwithstanding what physicians and surgeons have told us about hernia being a congenital defect, it is in reality an occupational accident of a highly contagious nature and largely confined to the electrical industry; and finally, there is no likelihood of a positive preventive being found for it, and even a partial preventive will hardly be discovered until a health insurance law is forthcoming.

Setting levity aside, let me quote from a decision of Commissioner Leech: "It has been the universal experience of Compensation Boards that hernia presents a fertile field for the unscrupulous and that great care must be exercised in dealing with cases of this character. An English writer on this subject has said 'There is probably more fraud connected with claims for rupture produced by an accident, than can be found in all other cases of fraud for the rest of the body. Of the cases that claim compensation for damages for hernia as being caused by a sudden strain, probably not one in ten is genuine.' "

This will, I believe tend to bear me out in the statement I am going to make, namely, That there are more accidents reported to the State than really happen. This is particularly true in connection with hernia, rheumatism, and eye trouble, especially as coming from the larger concerns who are equipped with ample hospital facilities and who treat practically all cases as accidents when brought to their attention by employes either honestly intentioned or otherwise, the main point being that the employe is in trouble and needs help. If there is any shadow of doubt as to the cause, it is given to the employe and an accident report turned in.

Ill health is undoubtedly the cause of many accidents, though hard to prove it so, yet how many workers appreciate the fact that every one of them is for about two-thirds of every working day his own boss, during which period he can by improper care, unfit himself for the day's work?

Perhaps it is a little outside the province of the Department's activities, but they have done so much good and in so many ways, both directly and indirectly, that in closing I would like nevertheless to ask one more thing of them and that is their utmost assistance in endeavoring to increase the facilities of the State's sanitariums for the treatment of tuberculosis. Our investigations discover quite a percentage of such cases and I am sure the same situation holds in other concerns, and frequently a considerable period of time must elapse after application for admission to a sanitarium is made, before a patient can be entered. As the disease has usually made some progress before the works' physicians take hold, further delay may mean the difference between a fatal and a non-fatal termination.

CHAIRMAN YOUNG:

Dr. Peter Roberts, of the Industrial Department, International Committee of Young Men's Christian Association, New York City, has selected as his subject, "The Teaching of English and the Making of Americans." Dr. Roberts will demonstrate his methods with a class of foreigners, who do not speak nor understand English, furnished through the courtesy of the Pennsylvania Railroad Company.

Therefore it affords me much pleasure to present to you Dr. Roberts.

THE TEACHING OF ENGLISH AND THE MAKING OF AMERICANS

By PETER ROBERTS, Ph. D., Industrial Department International Committee of Young Men's Christian Association, New York City.

This is a free show. This is a demonstration of the way we teach English to the foreign speaking men who come to the United States. I have no time to give you any statistics upon the matter. All of you who are closely connected with the industries of Pennsylvania know exactly the problem that employers of the State have because men do not understand English; and especially has this a direct bearing upon the question before the house this morning—safety. Hundreds of accidents that I have known of have occurred because this man, who is a foreign born gentleman coming over the seas to find labor in the industries of the United States, does not understand simple orders. Now, our business is to teach him English, to have a common medium of communication between the forces in industry and I don't think that ought to be too much to ask of the men who are coming here and especially of the employers who are employing them.

We have a regular course; a preparatory course, an intermediate course, and an advanced course. I am giving this morning the first lesson in the preparatory course in English. The first ten lessons are on domestic life, the simplest life that a man has. That is the place we all begin, in domestic life. After the first ten lessons we take up industrial life; we have lessons on railroad work, the iron and steel work, the copper work, anything that the man is employed in. The last ten lessons are joining him with the world outside, commercial life, buying a suit of clothes, going on a railroad, etc. These are the thirty lessons we have in the preparatory course. Then we take him up into the intermediate course.

In this preparatory course we do not give anything to the man in the form of a book, using only leaflets, because one fundamental principle is that if the man wants to learn a language for practical purposes he must use the ear. That is the medium of language. The eye is a help and so is the hand, but they should only aid the teaching given through the ear. Our method appeals to the ear. You cannot get a foreigner who has been here in the United States a month who does not know some words of English. These men know some words but to join those words into sentences is the difficulty of the foreigner.

(Dr. Roberts then demonstrated before the conference his method of teaching English, as follows, to a class of thirty foreigners said to speak twelve different languages.)

Now I want you to talk after me. Now: "Awake, open, look, find, see; awake, open, look, find, see." Now, altogether, "Awake, open, look, find, see." Once more: "Awake, open, look, find, see." Now, all together. Don't be afraid. It is not an easy thing to learn a language when you have an audience of this kind. When you get them in a class it is altogether different. Once more: "Awake, open, look, find, see." Good; once more: "Awake, open, look, find, see." That is right. Now, "Awake; I awake from sleep; I awake from sleep; I awake from sleep; I awake from sleep." All together: "I awake from sleep; I awake from sleep." That is right; "I open my eyes; I open my eyes; I open my eyes; I open my eyes; I awake from sleep; I open my eyes." "I look for my watch; I look for my watch; I look for my watch." "I find my watch; I find my watch; I find my watch." "I see what time it is; I see what time it is; I see what time it is; I see what time it is." That is right. Now, all together again: "I awake from sleep; I awake from sleep; I open my eyes; I look for my watch; I find my watch." "I see what time it is; I see what time it is; I see what time it is." Now, "I see what time it is." Good. Now, once more, all together; don't be afraid of these fellows around you;

they don't know it; we know it. Now, "I awake from sleep; I open my eyes; I look for my watch; I find my watch; I see what time it is." Good; that is right; that is the way to talk. Just give them a chance and they will do it. (Applause.)

(Dr. Roberts indicated by gestures and by pointing to articles what he was talking about.)

"Must get up; must get up; throw back; throw back; get out; get out; put on; put on; must get up; must get up; throw back; throw back; get out; get out; put on; put on; must get up; must get up; throw back; throw back; get out; get out; put on; put on." Very good. "It is six o'clock; it is six o'clock; it is six o'clock." "I must get up; I must get up; I must get up." All together now: "I must get up; I must get up." "I throw back the bed clothes; I throw back the bed clothes; I throw back the bed clothes; I throw back the bed clothes." "I get out of bed; I get out of bed; I get out of bed; I get out of bed." All together now: "I get out of bed; I get out of bed." "I put on my pants." We use the classical term in that. "I put on my pants." All together now: "I put on my pants; I put on my pants." "I put on my stockings and shoes; I put on my stockings and shoes; I put on my stockings and shoes." That is right; now, "It is six o'clock; it is six o'clock; it is six o'clock." "I must get up; I must get up." "I throw back the bed clothes." All together, "I throw back the bed clothes." Once more: "I throw back the bed clothes." "I get out of bed; I get out of bed." Now, "I get out of bed; I put on my pants; I put on my stockings and shoes; I put on my stockings and shoes; I put on my pants; I put on my stockings and shoes." That is good; good. Once more, "It is six o'clock; it is six o'clock." All together now, "It is six o'clock; I must get up." All together now, "I must get up; I throw back the bed clothes; I throw back the bed clothes." "I get out of bed." That is right. I get out of bed; I get out of bed; I get out of bed." "I put on my pants; I put on my stockings and shoes." You see there is fun in it. Why, my friends tell me it is better than the vaudeville show and we do not charge anything for it.

Now, all together; once more; now beginning, all together: "I awake from sleep; I awake from sleep." "I open my eyes; I look for my watch; I find my watch; I see what time it is; it is six o'clock; I must get up; I throw back the bed clothes; I get out of bed." All together, "I get out of bed; I put on my pants; I put on my stockings and shoes." Now, all together; don't be afraid; now, "I awake from sleep." All together now, "I awake from sleep; I look for my watch; I find my watch; I see what time it is; it is six o'clock; I

must get up; I must get up; I throw back the bed clothes; I get out of bed." Now, again, "I get out of bed; I put on my pants; I put on my stockings and shoes." Pretty good.

Now again: "Wash; comb; put on; put on; open and go down; wash; comb; put on; put on; open; go down; wash; comb; put on; put on; open; go down." That is right; now, "I wash myself; I wash myself." All together now, "I wash myself." "I comb my hair; I comb my hair; I comb my hair." "I put on my collar and necktie; I put on my collar and necktie." "I put on my vest and coat; I put on my vest and coat." "I open the door of my bed room; I open the door of my bed room; I open the door of my bed room." "I go down stairs; I go down stairs; I go down stairs." "I wash myself." All together now, "I wash myself; I comb my hair; I put on my collar and necktie; I put on my vest and coat; I open the door of my bed room; I open the door of my bed room; I go down stairs." That is right. Now from the top down; now all together; don't be afraid; now, "I awake from sleep; I open my eyes; I look for my watch; I find my watch; I see what time it is; it is six o'clock; I must get up; I throw back the bed clothes; I get out of bed." All together, "I get out of bed; I put on my pants; I put on my stockings and shoes; I wash myself; I comb my hair; I put on my collar and necktie; I put on my vest and coat; I open the door of my bed room; I go down stairs." Now, you know; don't be afraid. "I awake from sleep." All together now, "I awake from sleep; I open my eyes; I look for my watch; I find my watch; I see what time it is; it is six o'clock; I must get up." All together; "I must get up; I throw back the bed clothes; I get out of bed." That is right; once more: "I get out of bed; I put on my pants; I put on my stockings and shoes; I wash my face; I comb my hair; I put on my collar and necktie; I put on my vest and coat; I open the door of my bed room; I go down stairs." Pretty good; pretty good. (Applause.)

Now, who is my assistant here? I want to put this chart on the blackboard. Each line on the chart is a duplication of the words and sentences we have just given orally. I will have these men now read from the chart after me.

Now then please: "I awake from sleep; I open my eyes; I look for my watch; I find my watch; I see what time it is." Now talk plainly; open your mouth; don't be afraid; there are no flies around now, you know. Now, all together: "I awake from sleep; I look for my watch; I find my watch; I see what time it is; it is six o'clock; I must get up; I throw back the bed clothes." All together again: "I throw back the bed clothes; I get out of bed; I put on my pants; I put on my stockings and shoes; I wash myself; I comb my hair; I put on my collar and necktie; I put on my vest and coat; I open the door of my bed room; I go down stairs." Now, you read; all together: "I awake from

sleep; I awake from sleep; I open my eyes; I look for my watch; I find my watch; I see what time it is; it is six o'clock." All together, "It is six o'clock; I must get up." Not "Moost"; "moost" in Italian; "must" in American. "I throw back the bed clothes; I get out of bed; I put on my pants; I put on my shoes and stockings; I wash myself; I comb my hair; I comb my hair; I put on my collar and necktie; I put on my vest and coat; I open the door of my bed room; I open the door of my bed room; I go down stairs." Very good; very good. Some of these boys possibly cannot read in their own tongue but we make them read English. Now, all together again, "I awake from sleep." All together, now; "I awake from sleep; I must get up." Good. "I put on my pants; I comb my hair; I open my eyes; I put on my vest and coat; I go down stairs; I get out of bed; I look for my watch; I throw back the bed clothes." (Applause.) Pretty good, pretty good.

Now the first step—there are five steps in every lesson—first, oral instruction, training the ears and vocal organs; the second, when they first see the lesson; that is the time we have the reading lesson. Now the next is the writing lesson which we will omit today but we have these lessons in sheet form of this kind. (Showing lesson sheet.) We give the lessons to the man after he has been taught them, not before, so that he takes them home with him. Now, we will give him one this time. (Giving lesson sheet to each member of the class.) Those who observe these gentlemen will find that some of them are much brighter than the others. That is exactly what we find in our system of instruction. We furnish these men with pencils and pads for writing purposes.

The gentleman here (indicating) is the man who is responsible for bringing the men here from the Pennsylvania Railroad. This man over here (indicating) is the boss.

Now, read the lesson once more from this. (Lesson sheet.) Read it now.

A foreigner: "I no can read."

Dr. Roberts: All right; very good; I will teach you.

The foreigner: I got teacher, teach my little boy and girl.

Dr. Roberts: Good for you. Now then, all together. Those who can read, read the lesson. (Reading from lesson sheets.) "I awake from sleep; I awake from sleep; I open my eyes; I look for my watch; I find my watch; I see what time it is; it is six o'clock; I must get up; I throw back the bed clothes; I get out of bed; I put on my pants; I put on my stockings and shoes; I wash myself; I comb my hair; I put on my collar and necktie; I put on my vest and coat; I open the door of my bed room; I go down stairs." There are six men in this group who cannot read. You can see that if you just come here and look at their faces, but they do go over the lessons.

Now, here we have the writing lesson on the reverse side of the sheet in script. I ask every one in our class to take a pencil and write out that lesson. That is the next step, the writing exercise. The writing and reading rivet the instruction given through the ear and practice of the vocal organs. Now, put the lesson sheet away, we cannot get the writing lesson today. Does some one have a newspaper? Thank you.

The next step is reviewing the lesson given. We review the lesson we give every time. That is the fourth step. (Holding newspaper on chart so as to hide the lesson.) Now, what is the first sentence? "I awake from sleep; I awake from sleep." All together now, "I awake from sleep." (The sentence is shown.) Good. Then what do you do? "I open my eyes." All together, "I open my eyes." Good; that is splended; that is right. (Sentence uncovered.) Then what do you do? "I look for my watch." Good; fine; splendid. Now, all together, "I look for my watch." Then what do you do? "I find my watch." All together, "I find my watch." Splendid; that is all right. Then what? "I see what time it is." Once more, "I see what time it is." Then what? "It is six o'clock; it is six o'clock." That's it; now what else? "It is six o'clock; it is six o'clock." What next? "I must get up." All right; come out with it. "I must get up." All together, "I must get up." That is right; "I must get up." Now, "I throw back my bed clothes." That is a hard one. "I throw back the bed clothes; I throw back the bed clothes." All together, once more, "I throw back the bed clothes." That is right; that is a hard one. "I throw back the bed clothes." Read it now, please. "I throw back the bed clothes; I throw back the bed clothes." Very good. Then what do you do? "I get out of bed; I get out of bed." Then what? "I put on my pants." Then what? "I wash myself; I put on my stockings and shoes." That is fine; that is splendid. "I put on my stockings and shoes." Then what? "I wash myself." Then what? "I comb my hair." Good, first rate. Then what? "I put on my collar and necktie." That is right. "I put on my collar and necktie." Then what? "I put on my vest and coat." That is splendid; then what? "I open the door of my bed room." That is a pretty long one. Then what? "I go down stairs." That's fine; that's fine. That is the review that we give of the lesson.

Now, the last step in every lesson is to give these men grammar practice; technical, never; practical, yes. Why? Because we want to train them in the grammatical form of language, the correct form, so that they will get what we call grammatical instinct. You and I talk correctly. Why? Because we have the grammatical instinct; not because we carry the rules of grammar in our heads. The last step is this: Now follow after me: "I, you, he, we, you, they, I." All together now: "I, you, he, we, you, they." Very good. (Writing the

foregoing pronouns on the blackboard and showing them to the class.) "I, you, we, he, they." Once more, "I, you, he, we, you, they." That is right. "I, you." Put "you" in place of "I" and go through the lesson. "You awake from sleep; you open your eyes" (I open my eyes). "You open your eyes; you open your eyes; you look for your watch (You find my watch). No, "You find your watch; you find your watch; you find your watch; you see what time it is; it is six o'clock; you must get up; you throw back the bed clothes; you get out of bed (You put on my pants). No, "You put on your pants; you put on your pants; you put on your stockings and shoes; you wash yourself." That's good; that's fine. "You comb your hair; you put on your collar and necktie; you put on your vest and coat; you open the door of your bed room; you go down stairs." That is right; now, "I awake from sleep; I awake from sleep; you awake from sleep; he awakes from sleep." See, this way, "He awakes from sleep; I awake from sleep; you awake from sleep; he awakes from sleep; we awake from sleep; you awake from sleep; they awake from sleep." Now, all together, quick, "I awake from sleep; you awake from sleep; he awakes from sleep; we awake from sleep; you awake from sleep; they awake from sleep." That is right. See, their heads are moving. That is fine; now, all together once more: "I awake from sleep, you awake from sleep, he awakes from sleep, we awake from sleep; you awake from sleep; they awake from sleep." That is right. "I open my eyes." Now (writing on board) "My, your, his, our, yours, theirs." Now, "I open my eyes; you open your eyes; he opens his eyes; we open our eyes; you open your eyes; they open their eyes." Now, say it yourselves: "I open my eyes; you open your eyes; he opens his eyes; we open our eyes; you open your eyes; they open their eyes."

That is enough, I believe, as a demonstration. Many of you believe that these men are dull and stupid, but gentlemen, they are of the average intelligence, equal to the average intelligence of men in their same social status. The reason why we look upon them as dummies is because they never understand us. Let them understand and they will measure up to our demands. Why, I have two friends from Flint, Michigan, who are two of the brightest men the Buick people ever had and they sent them out to Europe to sell Buicks. They did not know the languages of Europe. They went to Spain and were in Madrid and they went in to a hotel in Madrid to order their dinner. They said, "Two porterhouse steaks, please." And the waiter did not understand any English. He looked ashamed and thought them very dull; and they said, "Two porterhouse steaks"; and he never smiled and never bowed. They knew he did not understand and as one of them, Jack, had taken drawing lessons in his youth, the other said, "Jack, you make a picture of a cow and put your hand in the right place and say "Two porter-

house steaks," and you will get them. "That is a good idea, Bill," said Jack; and Jack did it. He drew a picture of a cow and put his hand in the right place and said to the waiter, "Two porterhouse steaks." The waiter bowed and he left the room. They sat down and waited for their dinner, and in a little while the waiter came back with two tickets for the bull fight. Dull of comprehension; did not understand. That is the way with these boys. Let us sympathize with them; let us help them along to the language. What we want, gentlemen, is for every industry in this Pennsylvania State of ours to do their part in educating these men; and if they do it, use their capable men in the plant to do it, it will add to the solidarity of the plant, bring greater sympathy there and make them more cosmopolitan, for we want cosmopolitan men other than those we are making today by the roar of the cannon and the flash of the sword.

(To the class) Thank you, very much. Glad to see you.

CHAIRMAN YOUNG:

I think that we all feel much indebted to Dr. Roberts for his practical demonstration on this important subject. A similar matter was to have been brought up at the the conference last year, but unfortunately the gentleman who was to present the paper failed to appear. His paper, however, later appeared in the Department Bulletin.

The next speaker on the program is Frederick L. Hoffman, LL. D., Statistician of the Prudential Insurance Company of America, Newark, N. J.

It gives me great pleasure to introduce Dr. Hoffman to you.

THE MENACE OF DUSTS, GASES AND FUMES IN MODERN INDUSTRY.

By FREDERICK L. HOFFMAN, LL. D., Statistician of The Prudential Insurance Company of America, Newark, N. J.

Mr. Chairman, ladies and gentlemen, I think we have all been very deeply impressed by the preceding speaker and with that remarkable demonstration of Dr. Roberts. Nothing better can be brought before us than this kind of concrete evidence that the country is making progress in the direction in which progress is most required. The keynote of what has been said and what has been shown to us is active, intelligent, sympathetic co-operation and co-ordination between the men who do the work and the men who direct the work, and the men who, from the legislative point of view, control by statutory requirements their respective activities.

As one of the speakers has properly said, it is a remarkable thing that such a gathering as this could be held in this hall, but we, who have been coming here from the first conference, are so accustomed to it that we take it for granted and know that these meetings will never be done away with; that they will improve; that they will increase in attendance; that they will be perfected in details until they become a deliberative body for the public expression of qualified opinion regarding the thousand and one matters of labor and industrial concern to the people.

It is something also very creditable to the State of Pennsylvania to have been successful in drawing into the Labor Department a man from the academic or professional ranks, our friend, Professor John Price Jackson; a man from the industrial ranks, our friend, Lew Palmer; and a man from the corporate ranks, our friend, Dr. Patterson. That is as it should be. There should be a progress upwards from the ranks of labor and industry into the government and not downward, and the opportunity for such progress never was so great nor was the duty thereof ever so paramount than at the present time. It is the duty of any man who can render service to the nation to make the required sacrifices and do it.

The affairs at Washington today are largely being administered by men who have left private life and private vocations to give their services to the Government. A higher prerogative than that can never come to anyone and in no direction is the evidence of our progress more convincing than in the higher quality of men who are continuously being attracted to the deparments of labor, of industry, of statistics, and of health and sanitation, departments which in years gone by were often a reproach and mere harboring places to care for worn out politicians. We have only to look at the statutory requirements to realize our advance in a real civilization. Modern and effective labor laws in this state commenced with the Factory Act, passed in 1905, or only twelve years ago; the Blower Act of 1913; the Women's Act of 1913; the Foundry Act of 1911; the Lead Poisoning Act of 1913, and the Child Labor Act of 1915. These are the achievements of our own time, of our own generation, and nothing in the future, when the true history of this Commonwealth is written, will reflect more to its glory than these concrete evidences of realized conduct in social and industrial life.

The subject upon which I am to speak is "Dusts, Fumes and Gases as a Menace to Industrial Workers." It concerns about four million men and women, or ten per cent. of the entire mass employed in gainful occupations. The subject represents a much neglected phase of our associated activities, largely because of the technical difficulties in dealing effectively with problems of which, in a vague sort of way at least, men have been aware ever since industry came into ex-

istence. The State of Pennsylvania has published an account of some twenty-six hundred accidents according to their causes, and contributing circumstances, but the state has not and can not publish, under existing conditions, an account of the much larger loss of life in industry as the result of industrial dusts, industrial gases and industrial diseases, which remain largely outside of the field of effective state control.

I have in my hand a circular issued by the Cement Association of America in which there occurs this statement: "The dust problem of cement plants is attracting more and more attention, and money and efforts are being expended upon reducing dusty conditions in every part of the mill. This has been made largely necessary by the increased agitation on the subject on the part of the state and labor department and industrial accident commissions." Ladies and gentlemen, it is a profoundly suggestive admission to be made on the part of one of our most important industries that they frankly concede that the reform so urgently required in their own plants originated in the activities of intelligent and well administered labor and health departments. If our democracy is to be a real democracy from the bottom upwards, and not an autocracy from the top downwards, we must bring the truth home to every man and every woman in industry, whether in the management or not, that they are under a paramount personal obligation to leave nothing undone to safeguard effectively the lives and the health of the workers who can not adequately and properly protect themselves. But if they are not willing, then the State must be relied upon and to an ever increasing extent to frame, if necessary, even drastic statutory requirements in the furtherance of an effort (more or less, of course, in the nature of an intelligent compromise) to so improve the conditions in industry that life may be prolonged, that health may be improved, and that strength may be increased, all of which is now so scandalously and ruthlessly wasted in a thousand and one establishments, large and small, that are practically lawless in maintaining labor conditions for which there is little or no justification whatever. One of the preceding speakers stated, or rather implied, that most of the industrial accidents are due to the carelessness of the workmen, and he suggested furthermore that there was, unfortunately, a strong inclination or disposition towards deception and fraud in workmen's compensation cases. The subject of malingering is one which can not be taken up for discussion on this occasion, but from such investigations as I have made I am strongly convinced that the inclination or disposition to deceive and defraud the employer in workmen's compensation cases is not as serious as is frequently alleged to be the fact. The speaker may be reminded that in all labor problems we have first of all to deal with men who are workers and not social philosophers or social reformers. They are

simply employes whose often very arduous manual toil is performed from day to day and from year to year in a monotonous manner at best in return for but a moderate pecuniary reward. Workmen can not be and they should not be expected to bring about the required reforms in safety and sanitation in the industries in which they are employed. Such reforms are the duty of the employer, or of the employing corporations, and the State. It is, of course, the duty of the employe to exercise the utmost vigilance and see to it that nothing is left undone on his own part to safeguard his fellow workers. But no workman, especially in the dangerous trades, can rightly be expected to exercise the constant degree of extreme caution and care so frequently insisted upon by those who hold him primarily responsible for the majority of accidents on the ground of indifference and gross carelessness.

Some time ago I visited a sawmill in a southern State which prides itself on being one of the best administered business concerns of its kind in the country. A truly impressive amount of good work has been done for the comfort, health and safety of the workers. The manager directed my attention to the fact that his company was an active member of the National Safety Council and that the weekly bulletins were conspicuously posted for the information of all concerned. Together, we visited the mill and examined into all the conditions having reference to the safety of the workers. The manager was amazed and stood aghast at the obvious evidences of neglect in many places to which I directed his attention. In explanation he observed, "Yes, it is true that after all the predominant thought in the mind of a manager is the output of the mill and the profits." I replied, "That is as it should be, for if the mill is not properly run as a business concern it cannot possibly keep going and the enterprise must fail, with disastrous results to both the employer and the employe; but just as output and profits are dominant in the thought of the manager, so the work, the wages, and the hours of forthcoming rest and recreation are dominant in the thought of the workman. What you need is a first-class safety engineer who will give all of his time to the proper supervision of the plant—who, in other words, will assume this serious responsibility for you and who will see to it that these obviously dangerous conditions, which you had no reason to suppose existed, are done away with." (Applause.) Fortunately, that industry is one in which the mechanical hazards are quite readily observed, but there are many industries in which dusts, fumes, and gases prevail, which represent much more difficult problems of elimination and control to the management as well as to the supervising public authorities.

According to an analysis of the mortality of men employed in the most dusty trades, from one-half to three-fourths of the deaths from all causes, at ages 25 to 34, when human life is of the highest economic

value, are from tuberculosis of the lungs. Among printers and compositors that proportion is as high as 56 per cent; among gold-beaters, 61 per cent.; and among grinders and polishers, 67 per cent. There is a vast amount of statistics on the subject, but it is only within the last few years, and one of the achievements of our own generation, that really useful and rational governmental standards have been forthcoming and which justify the hope of more healthful conditions in industry and a rapid elimination of existing conditions which are unquestionably a serious menace to those employed therein.

What the State of Pennsylvania has done in this direction is probably better known to you than what has been done in other states. All of you no doubt are familiar with the convenient leaflets which have been issued by the State Department of Labor and Industry and which visualize in brief but readily understood language, the salient facts of health-injurious conditions in the bakeries, foundries, etc. These at best are but a mere beginning, for as the facts are better understood and the measures of state control are better developed, the suggestions will be improved and become more convincing, scientific and practically conclusive. They are the first evidence in the history of this Commonwealth that the State is realizing its duty to deal directly and specifically with each and every one of its industries and not with industry as a whole. A careful reading of these suggestions will convince you of the truth that many of the indicated unfavorable conditions are not within the power and the control of the employes. You will agree that they are primarily questions of intelligent management and rational statutory regulation. To be permanently effective they must rest, in many cases, upon strictly impartial scientific investigations, such as have been made by Professor Lee and others, and of which those of the Industrial Conference Board are conspicuous indications of the aroused practical as well as scientific interest in these questions on the part of representative business concerns. New Jersey is proud of having been one of the first of our American states to develop safety standards, and it may be suggested to all those present that the sanitary, engineering and industrial standards of the State of New Jersey are well deserving of thoughtful consideration, and, as far as practicable, of adoption in the states where such safeguards are at present wanting. Their enforcement must unquestionably tend decidedly in the direction of improving health conditions and bringing about a material reduction in the industrial accident hazard.

We happily have no longer to rely exclusively upon the factory inspection reports of the British, French or German governments. We may rightfully point with pride to what is being done by our own people, in our own way, and with a due regard to our own peculiar conditions. There is, of course, a considerable amount of useful in-

formation in foreign factory legislation and foreign sanitary standards, but many of these are entirely un-American and inapplicable to the solution of our own industrial problems. We must learn to solve these in our own way, in our own time, and at our own cost. We must have patience, in fact infinite patience as long as we know that the changes which are taking place measure progress in the right direction. We must safeguard ourselves against an undue amount of optimism, for there is sufficient evidence that in many directions we are not by any means making the progress that we are in duty bound to make, considering the intelligence, the morality, and the wealth of this country, of which we hear so much and of which all of us are proud. It is a lamentable fact, nevertheless, that there is an appalling amount of unutilized ability in this nation, and an enormous amount of misdirected effort, which should be more properly and effectively applied to the successful solution of the problem of the highest degree of health, comfort, and efficiency in our industries.

Of the 40,000,000 people engaged in gainful occupations, as said before, at least 4,000,000 are employed in the more or less dusty trades, with exposure to injurious dusts, poisonous fumes, and deleterious gases. If the average lifetime of these four million men and women is curtailed on an average by only ten years, you can readily estimate the social and economic loss of the nation in the waste of productive energy, but no one can completely estimate the social and economic losses to the nation, nor even individually in the case of a single business concern. Never in the world's history was the value of human labor as high as at the present time, and the duty of its conservation as paramount as it is today. The unnecessary loss of a valuable foreman, or a valuable worker, may materially curtail production and even imperil the business success of an industry.

These general principles seem more appropriate on this occasion than an extended discussion of the details of the unnecessary mortality and waste of life in the numerous trades and occupations which are subject to health-injurious dusts, gases and fumes. As a concrete illustration of the extent of the problem, your attention may be directed to a list of industrial poisons and their effects in the industries, issued by the Division of Industrial Hygiene of the Department of Health of the City of New York. Such a list should be subjected to critical consideration by every labor department and the conclusions should be applied with a first regard to the interests of the employe. It is regrettable that thus far the whole subject of industrial hygiene should have received such inadequate consideration on the part of the state health and labor authorities practically throughout the entire country. The city of New York has relatively few dangerous trades but the health department has thought it well worth while to establish an industrial clinic, and this example has been followed by the

University of Pennsylvania in the City of Philadelphia, where our friend, Dr. Stengel, has at least made an auspicious beginning, which is deserving of the utmost encouragement and substantial financial support.

As many of you know, the United States Bureau of Labor Statistics is engaged in collecting information and distributing, to an ever-increasing extent, valuable monographs on special occupational studies. The most useful and conclusive of these are by Dr. Alice Hamilton, who, by her indefatigable efforts, is rendering more substantial help to the wage-earning portion of our people than the herd of alleged social reformers whose platitudes and conjectures are a hindrance rather than a help. Among the more important contributions by Dr. Hamilton are reports on lead-poisoning in the smelting and refining of lead, the white lead industry in the United States, the hygiene of the painters' trade, lead-poisoning in the manufacture of storage batteries, industrial poisons used in the rubber industry, industrial poisons used or produced in the manufacture of explosives, and lead-poisoning in potteries, tile works, and porcelain enameled sanitary ware. These reports constitute an admirable introduction to the more general study of the vast field of industrial hygiene, which is chiefly concerned with health-injurious dusts, gases and fumes. The ascertainment of the facts, the working out of practical rules and regulations, and the initiative of required industrial reforms, all constitute a form of social and governmental service than which there is none other more likely to prove productive of equally far-reaching results to our wage-earners and those who are dependent upon them. It is difficult and often discouraging work, and so much more is it to the credit of Dr. Hamilton that it should be a woman to whom we owe practically the foundations of indnstrial hygiene in this country.

My friend, Colonel Bryant, the labor commissioner of my state, did scant justice last night in his reference in such glowing terms to the museums of safety in the German Empire. I am inclined to think that we have heard enough about Germany and are entitled to know more as to what is being done, or what is not being done, in this country. Colonel Bryant could have referred much more eloquently to the American Museum of Safety in the City of New York, which is an institution of the greatest possible value to the community, but inadequately housed and inadequately supported by the large majority of industries directly benefited by its mission of social service to the community at large. The financial support of this institution should be ten times what it is, and if properly housed there would unquestionably develop a more active public interest in its collection of safety devices and matters pertinent thereto than is at present the case. The museum has exhibits of the highest scientific and teaching value to those interested in the prevention of in-

dustrial accidents and diseases. Among others, there is an excellent exhibit for illustration, of the felt hat industry, also prepared by a woman worker in the field of industrial hygiene, Miss Lillian Erskine, of the New Jersey Department of Labor, who is also largely responsible, together with the speaker who will follow me, for the safety standards previously referred to and which are the law and the pride of our State. I hope that you will make yourselves thoroughly familiar with what the American Museum of Safety has done and is doing, and that you will assist other states and the Federal Government to establish, in course of time, similar institutions, so that the facts of dusty trades, of poisonous trades, and of other health-injurious and dangerous conditions can be clearly visualized to the people who are most urgently in need of this kind of instruction as a necessary supplement to the information and suggestions conveyed by safety bulletins or discussions in technical periodicals. We are proud of our museums of art and natural history, of our collections of scientific objects of interest to a multitude of people, but the time is bound to come, and it can not be far distant when we shall be ashamed to confess our indifference and neglect in the adequate equipment and proper maintenance of museums of safety and all that concerns safety, security, and welfare of the mass of men and women who carry on the industries of the nation which are so absolutely essential to our welfare, and never so much as at the present time.

The museum of safety is to industry what a museum of natural history is to the teaching of the natural sciences, or a museum of art to the teaching of the arts and crafts. But the American Museum of Safety is not only serving the purpose of instruction in safety devices, but it is utilized in an advisory capacity and to most important ends and purposes by the Federal Government in the conduct of the war. The safety organizations which are being developed in every branch of the government service, more or less under the direction of the chairman of the United States Employes' Compensation Commission, are carried out through the co-operation of the director of the Museum of Safety, whose services have been lent to the Government, and the National Safety Council, whose experts have been detached from that organization as a matter of national emergency. Thus these useful institutions and organizations combined are resolving themselves into auxiliary forces for the common good of the nation, aside from the invaluable direct or specific services rendered to American industries and the many millions of wage-earners employed therein. They are acting in co-operation with labor departments and workmen's compensation commissions to an ever-increasing degree of effectiveness. They are therefore deserving of a much more extended public interest and substantial financial support.

The duty of state labor and health departments in connection with the dusty trades, or trades otherwise dangerous to health, is too obvious to require extended consideration. Nevertheless, there is still much indifference and neglect. Among the conspicuous illustrations of a clear recognition of state duty are two recent bulletins of the New York State Department of Labor, one of which is on "The Dangers in the Manufacture of Paris Green," which is, as far as I am in a position to judge, as useful and scientifically conclusive a contribution on the subject as anything that has come to us from England or the Continent. After presenting clearly the facts of the inherent dangers in occupations carried on in connection with color grinding, the bulletin states that "It is suggested to the State Industrial Commission that the recommendations here made, but which are not covered by law, be enacted into a code, in order that this industry be free from the many dangerous conditions which now surround it." In former years such a recommendation would have led to nothing. At the present time you know that it will not be ignored but that, sooner or later, it will be enacted into a law or incorporated into the rules and regulations of the Labor Department, for every such recommendation regarding necessary improvements in labor conditions today carries with it the practical certainty of a revision of the cost of workmen's compensation. It is a gain to the State, to the employers, and the employes, measurable in money cost. Every needless death, every needless disease contracted in the pursuit of the employment, has today attached to it a penalty and its prevention is, therefore, no longer a matter of humanitarian or academic, but of strictly practical concern to the employer and the State.

Early during the present year I spoke in this House of Representatives to the people of Pennsylvania on the importance of compensation for industrial diseases. I may again utilize the opportunity to urge you to give more thought and time to the almost infinite possibilities of a drastic occupational disease compensation act. I have no serious apprehensions whatever regarding the alleged dangers of malingering and fraud. I am absolutely convinced, from such investigations as I have made, and as are best illustrated by the actual experience which has been had in the State of Massachusetts, that the most simple act is likely to prove the most defective. One of the preceding speakers gave expression to the point of view that the only hope for far-reaching improvements in labor conditions was in the direction of compulsory health insurance. It is my firm conviction that there is no necessity whatever for such burdensome, costly and autocratic legislation. Compulsory health insurance implies the serious possibilities of a truly extraordinary bureaucratic organization. There never was a time when the creation of unnecessary governmental

offices or organizations should be avoided more than at the present. The use of the term "insurance" is as much an illusion as the reference to health and preventive medicine. In reality the proposed legislation aims at the compulsory regulation and control of both the employer and the employe in all that ultimately concerns the development of the productive energies of the State. There is no need for such legislation, since we can make our factories healthful, and we ought to make them healthful without compulsory health insurance, just as we can make our people healthy through the active enforcement of health and labor laws. There is no necessity for another elaborate, costly, and burdensome system to do so. To the extent that occupational diseases occur in our industries it is the duty of the State to provide adequately for the compensation of the injured. This applies, for illustration, and specifically, to anthrax, to arsenical-poisoning, to lead-poisoning, to phosphorus-poisoning, to miners' phthisis, etc. There are those who deliberately delude themselves with appearances. The facts regarding occupational diseases in the State of Pennsylvania have never been ascertained by means of a qualified inquiry. It is gratifying to know that such an investigation has been authorized by the Legislature and will be made in the near future under qualified direction. The field is an extremely difficult one, as emphasized by numerous and often highly specialized investigations, made chiefly in other countries. It is to be hoped that the investigation in the State of Pennsylvania will chiefly concern itself with a few very carefully selected industries so that the results may prove of real and lasting value to those concerned. There are those who believe, for illustration, that coal miners are an exceptionally long-lived people, and that the dust in a coal miner's lungs is an advantage, rather than a substance harmful to the respiratory organs. There are those who deny emphatically that miners' nystagmus occurs in Pennsylvania, although the disease is relatively common in the coal mines of England and the Continent. It is to be hoped that the commission will give priority to the occupations with exposure to health-injurious dusts, gases, and fumes in industries or employments of serions concern to the many rather than to the few. The admirable report of the South African Commission on Miners' Phthisis may be referred to as a method of scientific procedure most likely to prove productive of practical value. All such investigations require to be made with a due regard to industrial processes. What may seem ideally desirable may be practically absolutely impossible. After all, it is of more importance that essential industries should be carried on in a manner most conducive to useful results than that their successful operation should be placed in jeopardy by ill-advised, however well intended, rules and regulations opposed to practical consideration.

As a prerequisite to an intelligent study of health and mortality in industry, it is essential that the vital statistics of the State should be subjected to critical consideration with reference to correlation of the occupations of the deceased and the causes of death. Pennsylvania has reason to be proud of the excellency of its vital statistics, and its registrar is one of the foremost authorities on mortality problems in this country. His function should be enlarged to make it specifically his duty to report annually upon the mortality by occupations, with special reference to age and cause, in precisely the same manner as is now the case with reference to age, sex, and locality. If necessary, additional legislation should be enacted making it mandatory upon attending physicians to fill out the death certificates with the required accuracy and completeness, not only as regards the industry in which the deceased was employed, but also the specific occupation followed at the time of death. All modern investigations into occupational mortality statistics prove conclusively the inadequacy, and even the misleading character, of returns for industries as differentiated from specific occupations. The real danger lies invariably with a relatively small number of specific employments rather than with a given industry as a whole. The risk of anthrax, for illustration, concerns only a relatively small group of wool sorters, whereas the large majority of men and women employed in the manufacture of woolen or worsted textiles is practically free from the risk of contracting this disease. For the purpose of emphasizing this specific occupation—hazard—it is therefore necessary to know that the decedent was a wool sorter at the time of death and not merely a person employed in the woolen and worsted industry. In much the same manner a thoroughly specialized analysis requires to be made of the coal-mining industry, differentiating not only the anthracite from the bituminous, but the different coal fields from one another, since as conclusively shown by the returns for England and Wales, there are wide divergencies due to variations in the chemical and mechanical properties of the coal mined, which unquestionably have a distinct bearing upon the comparative liability to tubercular or non-tubercular respiratory diseases. An investigation has recently been made by the Bureau of Mines into the steel industries as well as into the zinc and lead mines of southwestern Missouri. Much more, however, requires to be done in this direction, for the subject-matter of the inquiry is much more involved than is generally assumed to be the fact. Every state has a responsibility in this respect which can not, and ought not, be shifted upon the Federal Government. What is being done by the U. S. Bureau of Mines and the U. S. Public Health Service is deserving of sincere appreciation. Quite recently, for illustration, the Public Health Service issued a report on the effect of gas-heating

appliances upon the air of workshops, which is, without question, as excellent a piece of work in the field of industrial disease investigation as has been forthcoming from either England or the Continent. Pennsylvania has been most liberal in the support of her health and labor departments, but there is nevertheless an unrealized duty in the field of industrial hygiene, which it is to be hoped will be discharged with the same high regard for the public interests involved. Matters of this kind are now viewed from a more lofty point of view than formerly, as best illustrated by the magnificent response which has been made to the $100,000,000 appeal of the Red Cross, and the more than $30,000,000 appeal of the Y. M. C. A. By concentrating upon essentials, and by curtailing non-essentials, vast reforms are being achieved without serious difficulty which were considered utterly hopeless of attainment in the past. The possibilities of improving the health of the wage-workers of this state are truly enormous, but the required results can only be achieved by raising the standards of industrial hygiene, based upon well-considered inquiries into the actual working conditions of at least the industries recognized as most injurious to the health and life of those employed therein. The social and economic gains resulting to the Commonwealth from improvements in this direction would be incalculable.

Permit me to illustrate my remarks by a single concrete example. Twenty years ago I had occasion for the first time to examine into the health conditions of the cut-glass industry of this State. At that time lead-poisoning, especially in connection with the work at the puttying wheels, was of such common occurence that men with paralyzed hands and limbs could be seen sitting about the plant or throughout the village in a perfectly pitiful and helpless condition. As a result, the industry was penalized by the life insurance companies, and not only the relatively small group directly exposed to the risk of lead-poisoning were refused the protection of life insurance policies, but others employed in the industry as well. During the long intervening time there has been a veritable revolution in the processes employed in the industry referred to. The most health-injurious work has practically been done away with. The hygiene and living conditions generally have been materially improved. Cases of lead-poisoning no longer occur. There are no reasons for believing but that the cut-glass industry in the State of Pennsylvania is at present practically free from health-injurious conditions, and the men employed therein have no difficulty in securing life insurance protection and without the payment of prohibitive extra premium charges. These improvements were brought about through the active interest of an exceptionally intelligent and high-minded class of employers, as vitally concerned in the welfare of their employes as in their own, but the problem itself was rela-

tively simple and a satisfactory solution was not very difficult of achievement. In many other industries the situation is decidedly more complex. The facts can only be ascertained by means of a qualified inquiry and collective data, for a group of industries is frequently more trustworthy than the ascertained facts for a few individual establishments.

I have purposely refrained from over-emphasizing the statistical aspects of the problem under consideration. I have tried to present the subject in broad outlines as a matter of paramount state policy. The appointment of a commission to investigate the whole subject of occupational diseases is evidence that the duty of the State in this particular field of inquiry has been clearly realized by the Legislature, and the results will be awaited with much interest on the part of those concerned with the medical, social, and economic aspects of the questions involved. But it is of the utmost importance that the contemplated investigations be made scientifically conclusive as well as practically useful. Regardless of the progress which has been made, and of which the State has reason to be proud, there is the imperative necessity for more thorough methods of factory supervision, inspection and control. Work of this character requires the same high degree of technical qualifications which is today being insisted upon in the case of safety engineers. Men of the highest qualifications for this class of work are rarely available because of the neglect heretofore to provide an adequate course of instruction in industrial hygiene in connection with the work of our universities or technical schools. In a large measure the work required is medical, but on the other hand a most important branch of industrial hygiene constitutes the functions of the industrial engineer. The outlook for the future was never more promising than at the present time. Aside from the appointment of a state commission to investigate occupational diseases we have the encouraging prospect of a well sustained occupational disease clinic in the city of Philadelphia, of a course on industrial hygiene under the auspices of the College of Physicians and Surgeons. Reference may also be made to the specialized occupational disease investigations made under the direction of Dr. Landis, of the Henry Phipps Institute. The Mellon Institute of Research is another factor of considerable, and possibly far-reaching importance. The State itself, through the departments of Labor, of Health, and related governmental activities, can substantially further the aims and ideals of those who would desire to see the same practical recognition extended to the needs of wage-earners regarding adequate protection against health-injurious conditions in connection with the carrying on of industrial activities, which to an increasing extent, are being extended to those engaged in processes mechanically dangerous to life and limb. The attained

civilization of a state is most adequately reflected in a low death rate, but in no direction is the governmental and corporate efficiency made more evident than in the direction of industrial accidents and industrial diseases to the lowest possible minimum.

To the extent that life and health in industry are conserved, and the workers therein are protected against unnecessary time-loss in consequence of accidents or diseases, the State and the industries thereof only advance their own interests by promoting the welfare of those who, by their labor, create all that is essential to the well-being, the happiness, and the prosperity of the Commonwealth. I thank you.

CHAIRMAN YOUNG:

We will have the discussion by Mr. John Roach, Chief of the Division of Hygiene and Sanitation, Department of Labor, Trenton, New Jersey. It is a very important question.

It gives me great pleasure to introduce to you Mr. John Roach.

THE MENACE OF DUSTS, GASES AND FUMES IN MODERN INDUSTRY.

By JOHN ROACH, Chief, Division of Hygiene and Sanitation, Department of Labor, Trenton, New Jersey.

Mr. Chairman, ladies and gentlemen, I seem to have arrived at the amen period of this service and I guess about the greatest favor that I could grant you would be to cut the discussion as short as possible. And, furthermore, I am confronted with the task of discussing a subject that has already been discussed by such a great expert as Dr. Hoffman. I believe that Dr. Hoffman's discussion of the dusty trades in Bulletin No. 79 of the United States Bureau of Labor, published some years ago, has had a much wider influence in promoting health legislation than any other document that has ever been printed in this country, perhaps in any other country.

I know that that discussion has furnished sound and unanswerable argument for leaders of men in the labor groups in their approachment of legislative committees, it has furnished substantial food for discussion for the press, for the public speaker on the platform, and in the pulpit, and it has demonstrated convincingly the menace of industrial processes, generating dust.

I was greatly interested this morning in the magnificent speech that was made by Daniel Post, of the Carpenters' Organization, who so forcibly outlined the work of the referees in arbitrating disputes between capital and labor, and it would seem as though, through the agency of this Arbitration Board that labor has ceased to be the old time silent partner in the joint industrial enterprise.

But there is a substantial reason why matters of this kind receive wide attention. Twenty or fifty thousand men dropping their work is dramatic; it is gripping; it furnishes good copy for the newspaper man and food for discussion at the breakfast table. They figure fifty thousand men leaving their work, losing an average of three dollars per day, amounts to one hundred and fifty thousand dollars, and after the trouble has gone on for a time and everybody is astounded that such a condition of affairs should exist in civilized communities, the industrial arbitrators are brought in and machinery is set in motion to adjust this difference between the employer and the employe.

But we, who have given this subject some little attention, know that many times fifty thousand men are incapacitated and lose time, and the public loses their services, through industrial processes occasioning industrial illness. It is a menacing thing; it is stealthy, and it is subtle, and it does not appear on the surface—this question of industrial disease that strikes at the vitality of thousands and thousands of our workers. It does not furnish good newspaper copy and it is not a pleasant subject to discuss on arising after a night's rest.

For this reason much attention has not been given to it. A great deal more attention has been given to the question of industrial accidents; tabulations are made showing that so many millions of men in a year are hurt; the loss in wages amounts to a considerable sum. The statistics are very exact and the remedy is very plain—education and the provision of mechanical safeguards—and the matter is brought still more forcibly to your attention by the film visualization on the motion picture screen.

The danger from fire in factory buildings is still another dramatic hazard that attracts wide attention. Not many people, however, are killed or injured during the course of a year by fires in factory buildings. We know how many and the number is comparatively small, yet millions of money are spent in every state to provide safe exits and safe factory premises; willingly provided, because these things are dramatic, something that the ordinary lay mind can see and understand.

But this subtle menace of dust, of fumes, of the handling of a half a hundred separate and distinct trade poisons in your industrial processes are not so well understood so that it is impossible to calculate, even approximately, the enormous financial loss imposed on industry and the physical suffering endured by the workers throughout the State during the year.

Some work has been done along the lines of providing better conditions around industrial processes. The workers themselves have done a great deal, public officials have done a little and the State has done a little. One large city in our country has an organization known as the Anti-Tuberculosis Association. It is composed of groups of organized labor people, some fifteen thousand in number. This organization was formed six years ago with the avowed purpose of providing food, maintenance and medical inspection for those who are a part of the organization.

It very early became apparent that the tuberculosis death rate was much higher among those who worked in the dusty trades. The hatters in particular had a high death rate from tuberculosis; the death rate among the polishers was enormous. The secretary of the polishers' union advised the Department of Labor of New Jersey that in 1904, the death rate from tuberculosis in their organization alone was fifty in a thousand.

Through the installation of proper exhaust equipment, coupled with better working surroundings, in the course of nine years, the death rate in that trade was cut from fifty to four in one thousand. The figures seemed startling.

When the State first began to make more than a formal inspection of these very dusty processes,—buffing and polishing and grinding metals,—they found the workers confined in basements, in dark back rooms far away from the public gaze. It always did seem as though the dustier the process the dirtier the working surroundings, the more reluctant men were to let in a little of God's precious air and bright sunlight. As soon as the State officials compelled the installation of suitable exhaust equipment the manufacturers called upon to make the installations, in many cases, decided to take the dusty processes out of the basements or the dark part of the building and put them up in the better lighted places. The improved working quarters thus provided, independent of the modern dust removal equipment, have had a most salutary influence and have done much to improve the health of the persons employed in the dusty trades.

So it has been in a number of trades. Some years ago we were confronted by the members of The United Hatters Union who demanded better sanitary conditions in their employment; the Lord knows conditions were bad enough to suit even the old timer's very primitive conception of industrial hygiene. The wet processes were

as wet as they could be. The sizing rooms, during seven months of the year, were so filled with steam at all times of the day that I have frequently bumped against a worker in a gangway. I could not see my hand in front of my face in the hat factory sizing rooms. Although men work, live and die in that kind of an atmosphere, it was the notion of many of the old time employers, and many of the workers, that the steam laden sizing room was not the most unhealthful place in the factory. Of course, the workers had no medical inspection; the State had no medical records—we haven't many yet; so we really don't know whether the working conditions were as bad as they seemed. However, we designated steam control apparatus in accordance with data obtained by a trade investigation so that now you can walk through those factories and find them free from steam. The men now work with dry shirts and under humane conditions. While I never claimed that the steam conditions were deadly, I did maintain that if I owned a dog or any other kind of a dumb animal that I thought much of I would not keep it in that kind of a room. Then why ask a man to work under these conditions? It is an insult, to the self respect of the worker even if no physical injury results, to expect him to render social service in work shops charged with steam, noxious vapors or industrial dust.

Public officials, having the duty of regulating industrial working processes, who shut their eyes to the menace of impure air, occasioned by improper working methods should be condemned unless they provide ventilating standards to improve them; the workers should insist on this.

In this large organization, the Anti-Tuberculosis Association that I spoke of, the hatters had a membership. One of their processes, called "pouncing" the hat, is a very dusty process. For a period of seven years, nearly all of the men who died in that industry and who worked at "pouncing" died from tuberculosis. It may have been a coincidence—probably a large number of lawyers working on legal matters also die of tuberculosis. It seemed significant to me that all of these men should die from tuberculosis until I made a thorough examination of their working premises and found them working in clouds of dust; great streamers of it hung from the side walls and ceiling. The work rooms resembled magazine pictures you may have seen showing bad factory conditions. The situation presented, was one requiring the services of a mechanical engineer. All it needed was the installation of suitable exhaust equipment to take the dust away. After this was done, health conditions among the "pouncers" became noticeably better. An investigator who recently visited the Hatters Union was astonished at the keen interest of the workers in the question of industrial hygiene. On the other hand, you could not arouse much interest in the safeguarding of

machinery and fire protection. They were ready and willing to discuss the thing that they understood—the question of the hygiene of their working conditions. That is the way it is with all of us. We understand those things best that come closest to us, and I think when the question of controlling the dusts and fumes and vapors generated in industry has been given the same consideration as that of safe-guarding machines and freedom from the fire risk, there will be a vast improvement in the industrial hygiene of our factories throughout the country.

I am pleased to say that New Jersey and Pennsylvania are co-operating in this work. I believe that it is work in which all of the large industrial states should co-operate. Two years ago, at a meeting in Columbus, Ohio, I proposed that the large industrial states, including Wisconsin, Indiana, Illinois, Ohio, Pennsylvania, New Jersey, New York, Connecticut, and Massachusetts, should hold interstate meetings and establish standards for the removal of dusts, fumes and vapors; this was intended to include visits to individual plants where successful installations had been made.

So far, New Jersey and Pennsylvania have worked together in this enterprise and I hope before we have our next meeting, that all of the states, especially the important northern industrial states, will join in this interstate conference idea. New Jersey and Pennsylvania have already collaborated on Safety Standards for explosives manufacture and the manufacture of nitro and amido compounds. The published standards have received a wide recognition. The various danger points involved in the manufacture or the handling of nitro and amido compounds are provided with a comprehensive group of trade rules to cover this very dangerous work.

But we have only begun to scratch the surface a little. We see a pearl button machine making dust. From experience we know how to remove it. We furnish the employer with the necessary engineering information. We do not say to him, "Get a remedy for this dust." If he says, "How?" We do not say, "Don't know; just go ahead and do that or we will bring a lawsuit on you." This is not the modern way. If we ask him to install an exhaust system and he says it cannot be done we lay the job out for him. Briefly, we show the reason why and the way how dust should be removed. State Departments of Labor have got beyond the point where they walk into a factory and say, "Well, I don't know whether this process injures health or not; the law says you have got to carry it on another way and if you refuse we will sue you." That is the old way. We first make sure a process is detrimental to health. We then provide a remedy. We solicit the co-operation of the factory owner and the workmen employed in the industry.

In the printing industry, I understand, you have not provided

engineering rules for the removal of vapors from linotype machines. I think you could easily induce a publisher to install a system in accordance with the New Jersey standards, and thus demonstrate the health value of this kind of equipment. We started the Industrial Hygiene Movement in New Jersey in that way. We prevailed on some factory owner in each trade to put in a system on standard lines and thus demonstrate its usefulness. After a large number of installations are made you may find a recalcitrant employer who will simply say, "I don't care what the law says, I won't do it; and you can bring a legal action if you want to." So far we have not had an experience like that and I hope we never will. I think it is to the interest of the employer as well as the employes that good healthy conditions should exist throughout the industrial world. I believe the time will come when everyone of us will frequently have an examination made of our physical condition to determine if we are in good working order. When that time comes I will certainly favor physical examination for all workers.

CHAIRMAN YOUNG:

Just a word in closing. The speakers who have been necessarily omitted from this morning's program will have an opportunity to speak this afternoon. We appreciate the time and study which have been devoted to the various subjects by the speakers of this morning. We also thank you for your patience in staying here until one o'clock. The session is now adjourned.

THURSDAY, NOVEMBER 22, 1917.

Afternoon Session—2 o'clock.

Chairman, C. A. Emerson, Vice President of the Engineers' Society of Pennsylvania, Harrisburg, Pa.

ACTING COMMISSIONER PALMER: As two of the papers were held over from this morning's session it seems best for us to start on our afternoon program even though we did not adjourn here until one o'clock.

The Engineers' Society of Pennsylvania has, since the Department of Labor and Industry was created, been one of our closest associates in this line of work. For a number of years they held joint conferences with us and it is out of recognition of that close co-operation which has come from this society that we have asked Mr. C. A. Emerson, Vice President of the Engineers' Society of Pennsylvania, to act as Chairman of this afternoon's session. I am very glad, indeed, to introduce Mr. Emerson to you.

CHAIRMAN EMERSON: As Commission Palmer has just said, in the past it has been the custom of the Engineers' Society of Pennsylvania to hold an exhibition at the time of these conferences. That exhibition, for the most part, consisted of labor saving devices, safety devices and others for the prevention of industrial accidents. It was believed that the conference and the exhibit could work in harmony and that the exhibit was well worth while. The Directors of the Society had hoped to have a similar exhibit this year but under existing war conditions it was deemed inadvisable. I want to assure you, however, that the idea of the exhibit has not been abandoned, simply postponed until later when conditions may be more favorable. I therefore bring to you the greetings of the Society and the assurance of the Board of Directors that this Society wishes to be of value and of use in whatever way it may to further proper industrial conditions in the state and particularly those conditions that have so much to do with the efficiency of the workers.

We will now take up a discussion remaining over from this morning's program on the subject of "The Teaching of English and the Making of Americans," as presented by Dr. Peter Roberts. The discussion will be opened by Mr. Robert J. Wheeler of Allentown, Pa., whom it gives me pleasure to introduce to you.

THE TEACHING OF ENGLISH AND THE MAKING OF AMERICANS.

By ROBERT J. WHEELER, Allentown, Pa.

Mr. Chairman, ladies and gentlemen, I understand that I am to continue the discussion of the subject presented this morning by Professor Roberts. It was not my good fortune to be in time to hear all of Professor Roberts's remarks and see all of the demonstration, but because I have had something to do with that kind of work for some years I pretty much know what the Professor told you and I certainly enjoyed the demonstration.

It has been my good fortune to be acquainted with many industries in my time and I have come into intimate touch with numbers of foreign people and particularly those from the south of Europe and I have found them to be very lovable people. Last fall my business carried me into South Bethlehem every day and there are throngs of southern Europeans in that city. Very often they rode with me and some of them worked for me. I have come to know the southern Europeans, who work in the industries, and I believe it to be very much worth our while to endeavor to teach them our language and thus enable them to take part in this great experiment for democracy.

I will have to cut what I have to say very short for I have to take a train soon, but I want to tell you a story which will illustrate all that the Professor sought to impress upon you this morning and anything else I myself might add to it. The teaching of English and the making of Americans out of the Europeans who come to us as laborers has been to a very great extent neglected until quite recent years. I know this to be true because I have met them in many industries, in many states, over a period of years. I know that neither the employer, the labor unions or outside educational agencies have paid much attention to these people and it is because of that, that we in the United States have such a great problem in our endeavor to assimilate the large numbers of foreign born people who come to us, particularly the laboring class in the great industries. They are very much worth our while. They constitute a vast problem. We must assimilate them. We must teach them English, we have not been very sympathetic with them, neither we of the labor unions, employers, nor the general public and they feel that bitterly. A number of years ago I worked in the glass industry, and after a short acquaintance with the works, I noticed from day to day a very splendid appearing laborer who came out from behind the furnace. I found out later that he was our furnace tender, batch mixer, as we glass makers called him. He impressed himself upon one by his splendid carriage. He was a fine specimen of manhood. He had the appearance of a man of military and athletic training, I noticed him going along from day to day, and I remember one time I came upon him seated upon a bench reading a book, and he seeing that I noticed him, looked up and said: "Please explain this word to me," in faulty English. I took the book and was astonished to find it to be a difficult work on philosophy. Now, think of a furnace man, a laborer, reading a book on philosophy in English, a man who could barely make himself understood in the English language. Well, after I got over my surprise I explained the word to him and took considerable interest in him afterwards, I learned that he had a wonderful history. This man had just been driven out of Hungary. He had been a student attending the university of Budapest. Coming to America, no opportunity was offered to him because he was hampered with a language he did not understand. Whatever talents, whatever abilities he possessed, whatever he might have done for himself here he could not do because he did not understand our language nor our customs and we cared naught for him; he was only a Slav, a foreigner, just a laborer. The more I became acquainted with this man the more he impressed himself upon me. Shortly afterwards he and I both attended a great labor meeting. I do not believe I ever saw a more magnificent speaker. I learned that he spoke four other languages besides Slavic. He set to work

to learn the English language and one year later he entered a college with what assistance I was able to give him. Later, he attended an institution in Pittsburgh and became a court interpreter. One time in our city one of our prominent men made a speech and he blamed our industrial unrest largely upon the foreigner who came here with "no ideals"—he said—and sought to undermine our American institutions. This Slav felt that criticism bitterly, and wrote a reply for one of our papers. I can not forget the beautiful way in which he put the longing, the aspirations of the foreigner for equality in America with us Americans in our enjoyment of the liberty that has descended to us; and one of the things this man said in his reply was, "What does constitute an American? Is it the accident of birth? We men who come from foreign lands to man your mines and your railroads and your factories, are we to have no portion of this heritage? To me," he said, "An American is he who is of the spirit, who longs for opportunity, appreciates liberty, and is willing to lend all his powers to help defend its mighty principles. We, who come from foreign lands, hoping for sympathy from you people and receiving only such criticism, what must we think of America?" Well, that young man learned the English language well, gained an increased education here in America, became a very useful citizen, afterwards took out his papers and is now a citizen of the United States, and, if you deem this to be the best testimony of citizenship, he, a native of Hungary, a nation with which the English speaking people are engaged in war, is now a soldier in the army of the United States, and when our troops go abroad he will go with them to fight—"To make the world safe for democracy." This man received sympathy in America; he was aided to learn the language; he is a good American and, as time goes on, will no doubt be called upon to suffer for the institutions of the land he has adopted as his own. This is a real story out of life. There are thousands like it in America.

These people ought to have our sympathy. Effort should be put forth vigorously to teach the language. I am glad to say that in the industries where I have occasion to go—and I visit a great many communities in the business in which I am engaged—we find the employer changing front totally on this and many other like questions. I am glad to bear testimony to one of our big institutions in Allentown, the Phoenix Silk Company. The superintendent, Mr. Edward Soleliac, is a man well known in the State. He has gone so far as to pay the tuition of his young people of any nationality to the State College Extension School in Allentown in an endeavor to set an example for the manufacturers of Allentown so that they will join with him and others who desire to give the foreign people the fullest opportunity to gain a better education and make themselves useful together with us in this great land. I predict safely, that

after the war is over—whenever that shall be,—men of any race who desire to cast in their lot with us will be so valuable to us that we will put forth great efforts to afford them the fullest opportunity to develop. Already under the cloak of a language they do not understand, men of power, men of spirit, men of genius, are lost to us; but once we help them unlock the mysteries of our language they themselves will give to us a free and willing service. I think the day is coming in Pennsylvania when we will take more interest in their education, when every manufacturing plant, mine or mill will have its own educational department, there to teach the folks the language—they need that—and then to offer further general education and advance them in technical education, and if America does not do this thing how can we hope to hold our own in the world that the war has forced to become more efficient and more technical.

In my estimation, conventions like this year after year are doing a wonderful work for us in bringing together men of diverse views; bringing together men of different economic interests, so that we, who are the burden bearers of this common problem, can understand each other and bend ourselves to a common solution. I feel strongly the need of a great improved educational system in Pennsylvania. There ought not to be any privilege denied to any man or woman in this Commonwealth who desires to improve their condition and if we are to have a truly democratic country we must not allow any people to come to us from any part of the world to live among us without notice; to struggle on year after year without sympathy. We need to extend to them a hand that will help them over the trying places and if they are to be valuable to us we should lose no opportunity to educate and Americanize them. We are going to do things differently after the war. We are going to take more human interest in these people. We used to consider them as so much material in the industries, but now the human being is of too much value because we are killing off so many in the war that we cannot afford to allow any genius to go to waste as we have in the past; we want to take these foreign men, imbued with a spirit for education and development in American ideas and customs, and longing for knowledge. We want to develop that longing; we want to use these lives that American citizenship may be raised upon a higher plane; and that the brotherhood of man may be established permanently in this America.

CHAIRMAN EMERSON:

The next number will also be one of the discussions held over from the morning session by Mr. H. H. Wheaton, of the United States Department of the Interior. Many of you have met Mr. Wheaton and are familiar with his former work here in Pennsylvania with the Department of Labor and Industry, so he does not come as a stranger to us.

I take great pleasure now in introducing Mr. Wheaton to you.

THE TEACHING OF ENGLISH AND THE MAKING OF AMERICANS.

By H. H. WHEATON, Specialist in Immigrant Education, in charge of the "America First" Campaign, Bureau of Education, Department of Interior, Washington, D. C.

Mr. Chairman, ladies and gentlemen, with all of the ceaseless activity in which we are engaged at the present time, with all of our discussions, with all of the things that we are doing today, the most important thing of all in America, the most important thing to America is to win the war. (Applause.) Every activity, every thought, every motive, every intention, must be correlated to that one purpose of winning this war in the interest of the liberty which we have established here and in the interest of universal democracy. To win the war we must have an internal line of defense; we must have a united people back of the fighting line. Without a united people back of this fighting line in France our efforts will go to naught. We will disagree among ourselves and will be subject to specious moves on every hand. I am here to sound a note of warning and to tell you that organized anti-American propaganda among immigrants is going all over the United States, propaganda which is aimed at the very roots of our National unity; propaganda which is intended to break down our internal line of defense. That propaganda is in such insidious form that it is not noticeable to the average American. I dare say that you gentlemen sitting here are not aware that soap-box orators in the streets of New York are telling the foreigners of the East Side that the President of the United States has disbanded Congress; has seized the reins of government and that we no longer have representative government and suffrage in this country; that we are being subjected to taxation for the purpose of paying an indemnity to Germany. These are some of the things which are being circulated from a hundred insidious agencies in the streets of New York, in Philadelphia, in Chicago, and in the large industrial centres. In certain places immigrants in this State are being told that if they go to the night schools and enroll, they will be subject to the draft; that if they go to the building where the local exemption board is sitting, the board will seize them and put them in the army. Hence our night school attendance has fallen off in this state and, in fact, all over the United States and today we are not reaching the immigrant population

through the instruction that Dr. Roberts has illustrated this morning because the immigrants are being kept out of schools by this anti-American propaganda.

Since the war began, fires have increased over four hundred per cent; strikes and industrial difficulties have been instigated by anti-American influences. In our munition plants, in our war making industries, fires and explosions have been caused by the same influences—in our grain elevators and in our chemical making plants. With this kind of propaganda going on all over the country it behooves every American citizen to put his shoulder to the wheel and endeavor to help to solve the problem of Americanizing the immigrant. However beneficent it may be to help our fellow-men; I am first of all interested in America, and in doing for America what should be done for America. I am more interested in the campaign to unify the people of the many diversified nationalities we have in this country. Do you know that we have over one hundred races and nationalities here, comprising thirty-three millions of foreign extraction, thirteen million of foreign birth, three million who do not talk the English language? Since the census was taken over four million have come in from non-English speaking countries. One million six hundred and fifty thousand are illiterate; three million of military age are unnaturalized; one hundred thousand are debarred from citizenship by statutory provision. Men have come from every section of the globe, men who have every kind of political belief, men who have every species of custom, men who come from races radically removed in origin from our own.

Now, that is the problem which confronts you and it is an intimate knowledge of this un-Americanized mass in this country that enables the psychological bureau of the German government to know where to strike with anti-American propaganda. This bureau is more intimately acquainted with the psychology of the American people and its constituency than Americans themselves, and they are playing upon it for every inch of advantage which it is going to give them. I tell you, gentlemen, that in the City of New York the Mayor's Committee on Aliens is worrying over the situation, and it fears that when America is put to the real test in this war that in our large industrial centres, such as New York, Philadelphia, Chicago, and others, we will be found wanting. They fear that this disunited condition in America is going to be one of the principal factors which will cause us to lose the war if adversity starts against us. Now, to overcome this, there is being quietly organized a pro-American drive to begin on January 1st, 1918. Chambers of Commerce are already being registered to participate. Very shortly the appeal will be sent out to the industries, the patriotic societies have already been lined up and many other forces. So that, before the

1st of January, we believe that we will have co-operating in one nationwide movement, to counteract this anti-American propaganda, all of the principal commercial industrial, civic, patriotic, and fraternal orders and organizations in the United States. It is to make an appeal to you as members of industrial corporations and as members of labor unions that I come here today, and I take this opportunity to invite you to participate in this undertaking.

I am not going to discuss the paper of this morning because it bears on the technical side of the question of training immigrants for American citizenship. I am more interested at present in overcoming the anti-American propaganda going on among immigrants constantly than I am in the technical processes of educating them. True, we must have a fine technique, but more than that we must have a united country by all means; we must have a people here that stands behind the fighting lines and are willing to put down their last dollar, to put down their lives, if need be, to win the war. Can we depend upon the industries of Pennsylvania and the labor unions of Pennsylvania, the women of Pennsylvania, and the patriotic spirit of Pennsylvania to help us do this truly American job? (Applause.)

CHAIRMAN EMERSON:

I am sure that if Mr. Wheaton had sent out his letters and they were available here today that every man and woman in the room would be only too glad to enroll in the movement such as he has described it. The next best thing we can do is to be on the lookout and when these letters are ready, to sign them then.

The first item on the afternoon's program is an address on "How Organized Labor can be of Service in the Prevention of Industrial Accidents," by James H. Maurer, President, Pennsylvania Federation of Labor, Harrisburg, Pa.

I take great pleasure in introducing Mr. Maurer to you.

HOW ORGANIZED LABOR CAN BE OF SERVICE IN THE PREVENTION OF INDUSTRIAL ACCIDENTS.

By JAMES H. MAURER, President, Pennsylvania Federation of Labor, Harrisburg, Pa.

Mr. Chairman, ladies and gentlemen, we have listened to some very able addresses in the last two days and I fear that I can hardly say anything that has not already been said. You have heard labor

men address you on many subjects, employers and experts, scientists and social workers, and I feel that mostly everything has been covered, and the subject, moreover, submitted to me, "How Organized Labor can be of Service in the Prevention of Industrial Accidents," is not very broad and limits me to a very narrow channel. However, I might say that, in my mind, industrial accidents are, after all, not the greatest part of our trouble. The conservation of human life should cover a broader field. In view of the fact that these are war times and millions of us are, perhaps, going to stay at home and not go to the front, I feel that the millions at home, if they are going to do their "bit" in the war, should make as good use of their time in the industrial army as the military authorities will with the military army. We might as well begin right now as to wait until we find that it is absolutely necessary to begin. My whole policy in life has been to prepare for the worst. I believe that all of us agree that the war should end today. We would all welcome such news and we all agree that we don't know when the war will end; the war may last a month, a year, two years, five, ten or twenty years. Let us hope not; but it may. I hope it will end very soon and so do you, but hoping and wishing is not exactly the practical way to do things. I therefore think we should look upon this subject in the proper light; let us prepare for the worst and if the worst comes we are ready for it and if it does not come we are ready anyhow and no harm is done; whatever we do will not be wasted; whatever efforts and energies we may exert at this time will be to our credit if peace comes in the meantime or if peace does not come. After the war will come reconstruction, as big a problem as the war, perhaps greater than even the war. The world will need reconstruction and we should be prepared for that and, in my mind, the greatest preparation that can take place is the conservation of human life and energy, the husbanding of our resources; and we should not wait for some one to point out the way and tell us when we should do it. If we fail to do it, it will not be done. The purpose of this convention, as I understand it, is to be the vanguard in the conservation of human life in Pennsylvania. I, therefore, come back to what I said a moment ago, that accident prevention is not the big thing. Conservation of human life and energy is the big thing.

I have, perhaps, had a wider experience with the working class than almost any other man in Pennsylvania of my age. I say this not immodestly and I only refer to it for the reason that I want you to understand that my experience is such that I could tell a good many instances such as I am going to relate if time permitted and you care to listen, but this is one particular instance. At noon, today, I was over in the Governor's reception room, meeting with

the Commission to consider the subject of "Old Age Pensions," and the question came up, "What should be the age at which men or women should be pensioned?" That is a question no one can, without much study, answer if the answer is to be fair or right; for this reason: some years ago I was in a union of miners; they were in session and, during the regular proceedings, the question of grievances came up. If any man had a grievance he submitted it to the organization at that time and there was a grievance committee that took up that grievance, the next day, to see what they could do about it. One man rose and said he had a grievance. He was an old looking fellow. They asked him what his trouble was. He gave a story like this: "I, a old man; I, old man; I very old man. Superintendent, he took my job. Superintendent, he put me back in mine. He gave young man my job. I want my job back. I too old for work in mine. I, too old. I want my job back; easy job; old man job, not young man job. I want my job back." Then they asked him what he worked at and he told them. It seemed his job was outside the mine, hooking up cars or unhooking, a very easy job for an old man. For some reason, or other, he was taken off this job and a young man put in his place, and he complained to the union. He complained to the grievance committee. So they went to investigate the case and see if they could fix the old man up. I went down the hall where the old man stood and I looked him over. I said, "How old are you; you are not old?" He said, "I, old; I, forty years old." Forty years old and old he was: He was bent up, shriveled up. "Why," I said, "man, you are not old. Why, I am a dozen years older than you are." "Oh, yes," he said, "I know; you never worked." I said, "Yes, I worked very hard all my life; I went to work when I was six years old and have worked steadily ever since." He said, "You not know what work is; what you work?" I told him. "Oh, that is no work," he said, "you go in mines, lay down in water, lay down in water all day, pick coal and you keep it up for years and you know what work is." And I knew he was right. His life nearly flickered out at forty. I saw men at social functions take a cup of coffee, or plate of ice cream with the spoon in their fingers, which were so stiff and clumsy they could hardly hold the spoon; young men they were, too. We look over the field of human endeavor and we see young men, we wonder why they are not at the front. I find young men around the cities and I inquire, "How is it that that fellow is not drafted?" "Health is no good." I inquire further and I find many syphilitic through immoral lives; they get their sex hygiene from the gutters. I investigated others and I found it was their bringing up and neglect. You go into the homes. Many of our people do not know how to furnish a home, how to live. We have neglected all of that

in the past and we were just mad, mad for dollars; and, in the mad stampede, we have gone on and now we are paying the price. When you look over the draft records and see the amount of men disqualified it is shocking. Look through the sanitariums—tuberculosis is running amuck, unharnessed throughout the land. All of these we have, in a way, played with in the past, but shamefully, yes criminally, neglected. I do not want to be understood as accusing anybody, other than the whole of society. I believe, therefore, that the time has come that we should call ourselves to account and have a talk with ourselves. Do you know, when things break wrong with me for awhile, I spend a night all by myself, and I talk to myself. I say, "What is wrong; what is the trouble?" And I try to see myself as others see me. It is a hard thing to do, I know, but let us try to have a talk with ourselves and see ourselves as others see us and, if we do that, I believe we will start along the right line. We have been the most wasteful people on earth, the most destructive. We have been savages. We play with everything as though there was no end to our resources. We are talking now about saving coal and we have power enough passing the doors of this Capitol to heat and light and furnish power for every city and industry in the State; but we are concerning ourselves about coal when, if we were doing things right, in my mind, we should harness the great streams of our Commonwealth to furnish power, light and heat. But no, we insist on going along the old way. The Government needs coal. It needs it for Europe; it needs it for a thousand ships; it needs it for every land and we need it at home. We are going to try to do the impossible, to make a railroad whose capacity in the past, under normal conditions, was highly taxed, and make the mining industry which, in the past under normal conditions, was highly taxed, make that same railroad and mining industry now meet a condition to supply the world at war, to supply the war machines on the water and to keep up its normal trade just the same. Impossible—it cannot be done. We talk about the conservation of coal and, along the railroads, we see oak ties burned up, deliberately destroyed. The wood that is destroyed, annually, by the railroads would, if properly used, greatly relieve the fuel shortage. We are paying the price of our own stupidity. I hope we shall learn better before long. Everywhere you look, waste, waste, waste; and then we ask, in the name of Patriotism, that somebody make a sacrifice; that somebody heat their room five degrees less or eat less food to do our "bit," and, while we are asking that, we are going on wasting, wasting, wasting, and doing things the wrong way. I think we should all wake up and begin to do the right thing in the right way if we are going to win the war; begin now and don't wait until the war is over and then say, "if we

had done this or that, we would be better off." Let us do it now, the war may end while we are going along the right road and we will be prepared. Friends, you may talk about your military army all you like, but unless you have a more powerful industrial army back of the military army, you will not have an efficient military army; the military army cannot be efficient unless the industrial army back of it is more efficient.

Now, friends, I will get to my real subject, which is, "How Organized Labor can be of Service in the Prevention of Industrial Accidents." The history of organized labor in Pennsylvania on this subject shows that much work has already been done along the line of accident prevention. More than four hundred safety committees, in as many different unions and central bodies, have been established and, while some of them have been rather inactive, many of these committees have done splendid work. Unfortunately, the employers do not always co-operate with these union or shop safety committees and, unless they do, the committees are useless. In some cases, after repeated efforts, on the part of the safety committee, to have certain dangers eliminated, which failed, the committeemen were actually discriminated against. That is only true in some cases, discriminating against them for their activity in trying to eliminate danger. That is correct and I can prove it if any one feels that is not true.

Taking the State as a whole, I believe that, next to the Department of Labor and Industry, organized labor is the most powerful factor in accident prevention we have in the State. In years gone by, two-thirds of a union's time on meeting nights was consumed in considerating and acting upon dangers that the foremen or superintendents failed or refused to act upon or abolish. And, indeed, sometimes it was necessary to call a strike in order to have these grievances considered. I dare say in the years gone by more than half of the strikes you read about were provoked by just such conditions; and this is particularly true in the mining industry.

I do not wish to be understood as saying that organized labor has done all it can do. I know we could have done more and I believe that, in the future, we will. The great mass of organized workers is no different from the great mass of unorganized in this respect and what all of us need is education and the same is true of many employers and particularly their superintendents. I shall recommend to organized labor that we begin a campaign of education; that a course of lectures on accident prevention and conservation of human life and energy be held in every union in the State. And I shall further recommend to the employers that they do the same with their managers, superintendents and foremen, because I feel that right here is where the greatest good can be done.

Just allow me to digress a few moments. I found that many strikes were due entirely to the ignorance of some little whipper-snapper of a boss. I found that many of our troubles in industry were due to the arrogance or ignorance of some under boss. Very often when we carried our grievance to the top, the firm was amazed to learn that the strike was on account of what we told them. For the past six years I refused, positively, to do any business with the foremen or superintendents—with all due respect to them, there are some splendid fellows among them—but it is a waste of energy to try to do business with them. If I cannot see the biggest fellow connected with that concern it is not worth while to see anybody. I find it is usually just as easy to reach the big fellow as it is the office boy. I have no more trouble in reaching the highest official than I have to reach the foreman, sometimes less. Foremen, invariably, are good fellows at heart, but they want to make good, and often they don't possess enough knowledge of the business, or how to handle men to make good. They believe they must be drivers and arrogant—that is, the green-horn; the old foreman has learned the tricks and he knows better—but many foremen, young in the business, have provoked many strikes. To remedy a dangerous spot without orders from the foreman, sometimes means that someone will lose his job. Therefore, you employers, foremen and superintendents, I hope that the future will not allow you to bring about a disturbance in your industry on account of something that could be fixed up by being a little decent about it.

The speaker who preceded me said something about fomenting strikes to injure our case in the war. I respectfully ask the gentleman if he can give me any data, showing that any such work has been done in Pennsylvania. I will be ever so grateful for any such information. I have no knowledge of such strikes. But I do know that when we are pressed, driven desperate by the high cost of living, and we know the earnings of the firm—we usually know that as well as the firm and sometimes better—we know the possibility of paying us more and we ask for it and don't get it, with the cost of living going higher and higher, it is not very agreeable to be charged with being in cahoots with the Kaiser because we want what we believe is due us. It is not fair; yet we have been charged all along the line with just such things. If you will hand over to me the name or description of anyone guilty or in any way connected with any scheme to harass our Government and aid the Kaiser by provoking strikes, I will see that the Government gets him and, if I have to drag the State a dozen times to get him. But don't accuse us, when we are up against the proposition that we have to fight to live, as being in sympathy with a foreign foe.

"Safety First" signs are of little account unless there is an intelligent desire to do what the sign says. I have seen some of the most beautiful signs. That was all they were. (Laughter.) But no matter how much organized labor may do along the line of accident prevention, its efforts will only cover a small part of the great work that must be done. Just as there have been great drives to sell liberty bonds, I recommend that similar drives be made for the conservation of human life; that the thousands of teachers in our schools be enlightened on the subject and that they then begin a work that should have begun long ago, not only how to avoid accidents but how to live clean, wholesome lives. Tear away the cloak of sham modesty; let the children learn the mysteries of their own bodies; teach them the science of sex-hygiene and we will eliminate one of the greatest curses with which the world is afflicted.

Let us direct our drive against every element responsible for tuberculosis. Let us give our state a house-cleaning and, if this cleaning necessitates the demolishing of a million disease-breeding shacks and tenements, let us demolish them. This drive for the conservation of human life should begin at once. This convention should recommend that the Governor, through the Department of Labor and Industry and other State Departments, or by any other method that he might see fit, should at once inaugurate a state-wide drive for the conservation of human life. I admit that this will be no small task, but we are Pennsylvanians, and, like our forefathers, I believe we are big enough to measure up to any emergency no matter how big that emergency may be.

We are now at war, the most destructive within the history of the world, and to win, we must pay as much attention to our great industrial army as we do to the military army. Let me repeat; the military army, necessarily leans upon the industrial army. We cannot hope to get a hundred per cent. efficiency out of a military organization if the industrial organization back of it is weak, inefficient or crippled. Horrible and destructive as the present world war is, I believe it will teach us Americans one very important lesson and that is how to husband our resources, eliminate waste and conserve all the elements essential to life, liberty, and happiness.

CHAIRMAN EMERSON:

The next will be a paper on The Value of Education in Eliminating the Human Equation as a Factor in the Causation of Accidents, by Earl B. Morgan, Safety Engineer, Norton Company, Worcester, Mass.

It gives me very great pleasure now to introduce Mr. Morgan to you.

THE VALUE OF EDUCATION IN ELIMINATING THE HUMAN EQUATION AS A FACTOR IN THE CAUSATION OF ACCIDENTS.

By EARL B. MORGAN, Safety Engineer, Norton Company, Worcester, Mass.

Mr. Chairman, ladies and gentlemen, I received an invitation to present a paper. In all seriousness I prepared this paper but there has been so much said on the subject of education by the speakers who have preceded me that I cannot resist the temptation to simply talk to you as "you and I," and I omit the very formal pronoun because I know my paper would prove very dry after what has been said. The subject is "The Value of Education in Eliminating the Human Equation as a Factor in the Causation of Accidents." When I received this assignment I wondered whether the Honorable Commissioner was laying a trap for me to come down here and admit that up in Massachusetts we had eliminated the human equation. We have not, and I think I can say neither have you, neither will you; it will always be with you.

The subject of safety education is what I desire to talk to you about in detail. It is a very broad subject. There has been much written; there has been much said; but it is always well and worth while to carefully review open-mindedly the accomplishments and failures and profit thereby.

Now let us analyze the accident record of almost any industrial plant. What do we find? Accidents caused by carelessness, about ninety per cent; accidents caused by lack of mechanical safeguards, about five per cent; and accidents caused by unforeseen things which could not have been prevented, about five per cent. How familiar this is to all of us. We say right away, that is just what we have in our own plant. The personal equation, ninety per cent! That is the field, ladies and gentlemen, for our safety educational work. It is always with us; we are always going to have it just as long as we have men and we have got to stand up and meet it. We are never going to be able to sit back and say we have solved it simply because we put in some of the well known safety organization schemes. It will rise up and smite us just as surely as we follow this plan of action.

What is safety educational work? Let me answer by analyzing the methods that have been used, searching carefully for their strength and weaknesses so that we may profit. First, we have the safety committees and that is well known, but still let us see what they are.

First, we have the workingmen's committee; then we have the foremen's committee; then we have, perhaps, the central committee composed of executives. Now let us see what their duties are. They are to make inspections; they can investigate an accident and see if there are any ways or means of preventing a recurrence, and submit a written report; and then perchance, from time to time, use their influence in cautioning their fellow-workers. Now, these reports should be submitted in written form. Furthermore, they must be followed up by being acknowledged by somebody higher up. Unless they are acknowledged, telling the committee the disposition of each of the items, you are not likely to get the best out of your committees. How can you get the best out of the committees? First, I believe experience has shown that the committee membership must be changed and rotated so as to bring all of the employes into play, because if there is any value in the safety committee it is in educating the individual, making him realize that there is something to this accident prevention work; making him realize that he is the man who is going to lose most in case he has an accident. Next, we must make the men feel that this safety work is a duty. For that reason I think it is perhaps better always to have this work done on pay time. If not, you may perhaps be familiar with a safety committee meeting such as I will describe: The foreman comes in and says, "Well, boys, we have a committee meeting; let's get it over with." Somebody gets up and says he saw an unguarded pulley over there. "Move we have it guarded." Another fellow says he saw somebody spit in the drinking fountain. "Move we put up a sign." Pretty soon everybody yawns and they all begin to wonder when it will be over and then somebody says, "It's time to go home"; and then the committee get up and leave. It is like any other idea: You must put some life into it and that life comes from the man behind the gun. You may as well not have a committee unless you do because they are going to fail.

Now, I may perhaps surprise you in referring to our experience. We have discontinued our safety committees. That does not mean that we do not advocate safety committees. We have had the committees for well onto two years and they have rotated through most of our sticking help—not the floaters—and we feel that the men have accomplished about all the good they can out of the committees. At the same time we have developed our safety engineering department to a standard where they are all specialists in the various lines and we want to impress upon the men the idea that it is somebody's particular duty to prevent accidents. Now, I don't want you to think this will work out in everybody's shop. I do advocate this plan for a large plant; you would not think it was a good plan to go around and help your electrician and your master mechanic with voluntary committees to report the condition of machines, etc. You put this up to

them. What we are trying to do is to put accident prevention up to Mr. Foreman, and then he has the specialist in the safety engineering department to whom he can look for advice.

I don't know how this plan is going to work for us, but so far, it has worked fine. We feel it is the only way to handle the problem. It may not work in any other plant, but I think it draws out the point that we must all study our own conditions and not simply go home and impose on our organization something that I or somebody else says. You must study human nature, the personnel of your organization, the difficulties of your men—all those things go into the consideration. We happen to have a large percentage of foreigners and that, perhaps, has not helped us to get the benefit out of safety committee work which could be derived in some other plant.

Then we have the safety suggestion system, which is to have boxes around the plant where a man can go and put in his suggestion without feeling that he is going to get into trouble with somebody because he made a suggestion and without feeling that the foreman is going to be down on him and jeopardize his chance for advancement. If you have boxes I do not believe you need to provide forms. We get the suggestions on order tags and in fact on every conceivable kind of paper. Then the next thing is to acknowledge the receipt of these suggestions immediately. Don't let them stick in the boxes two or three weeks, but make somebody go around every night and let the man know immediately that you have received the suggestion. Don't wait until you get a great many on hand. In the meantime he wonders what has become of his suggestion. As soon as you have acted on the suggestion write him and tell him about it. I have found it valuable sometimes when I had to refuse suggestions, which perhaps had some merit, to even call the man into my office and have a friendly talk with him and get next to him and show him that even though we turned his suggestion down we thought that there was merit in it; in other words, we simply want to make it clear to the men why we have turned the suggestion down and not let them think that it was because they were ordinary working men in the shop. I can heartily commend that plan to you. A few moments spent with a man in personal contact will often get under the workman's skin. It may not bring tangible results but you will feel it in the end. The safety suggestion system, what does it accomplish? It arouses the man's personal interest in safety work. It keeps him interested because he knows there is always a chance for him to receive recognition.

I believe in cash prizes. What do you want to give a man a watch for? Give him some pay and let him buy what he wants with it. If you are giving prizes and give a watch one year then next year you have got to change and give something else and keep on changing to

keep up interest in your efforts. You cannot keep up the interest with old prizes. But you give them money and you will never have to change your prize system.

I regretted to hear the previous speaker say that some men had been discriminated against for suggesting accident prevention measures. Ladies and gentlemen, I sincerely trust that there will be no more of that, if there has been any, and I am glad to state that I never ran on any such experience and I cannot understand an employer or foreman who takes such an attitude. There is something wrong and you had better get down to the root of it and wipe it out, because it is going to make trouble further than the accident prevention question.

Educating the new man. What does this mean? Why, it is simply the common sense proposition of showing each man what he ought to know about his work in order that he can do it without being a hazard to himself, to his fellow-workmen or the machine or material he is using. Our engineers, our superintendents and our foremen spend hours and hours of concentrated thought designing machines or conveyers, all these things, and perfecting production methods. I want to ask you, how much thought do they give to teaching the workman when they put him in charge of that machine. There are two elements in any industry, the machine and the man. How foolish of us to requisition our engineering or purchasing departments to put in a machine and go at length into typewritten specifications to require this and that kind of bearings and this guard and belt, etc., and then when we make a requisition for a man, we simply ask for a man, that is all; give me a man; I don't care what he is.

The time to get the new man is when he is employed. That is when he is receptive; he will take in the propaganda. You get him because he wants the job. It took me quite a long time to tumble onto that. I put two men in a plant of five thousand. They are simply good fellows. They have no other job. The minute a man is put in those fellows get hold of John Jones; they get under his skin. They have been through the mill. They talk the shop lingo and get under his skin, find out how his kids are at home and slip him a few thoughts worth while on avoiding time payment plans, loan sharks, and all such things, and tell him when he gets in trouble where to come for help; and I tell you it has proved a perfectly fine thing. I do not know any other measure that we have got any better results out of. But you have to get the right man. It is a big idea. It takes a big man. He has got to have vision. You cannot send a man out with a white collar on. The men must feel he is one of them. How foolish it is to place a new man at a new machine. You lead the poor fellow out there and tell him to run the machine. Can you wonder he has an accident. It is bound to happen; particularly if there is no guard on the machine or the man can knock over material that is there to

feed the machine. Look at any plant and see what the material handling hazards are. I will take a bet with you that you will be amazed. Of course, that won't hold in some cases.

Then you must investigate constantly for that mental defect as we like to call it. I do not know what other name to call it. That is the lack of knowledge on the man's part to know when he is in danger. You send your inspectors into the shop and you tell them to investigate the unguarded and unsafe conditions. Why not inspect for the human side of it? We have got a system of following up all of our men, as I said before, and the week after he is on the job, he is seen by the inspector. We want to know how he is getting along. He may be a man who can't stand working around moving machinery; he may show up some physical defect. That has got to be done if you are going to get the new man problem solved. That is the thing that comes into our labor turnover. It is up to every industry to educate their men. We must act together. I am getting your men and you are getting mine. Let me do my part and you do yours. Until there is unity of action in this educational proposition we are not going to get anywhere.

I want to tell you a little story to show you what I mean by co-operation of the new men getting the idea. There was one man employed and put in our chipping department. The inspector found him one day without his goggles on. He brought him over to the safety department and gave him a pair of goggles. After quite a lot of talk and pleading the man went back and went to work. Some two or three days later I was sitting in my office and I saw this man coming down the hall leading another fellow with him, holding something in his hand. He came into the office and he held up a pair of goggles. He was just tickled to death. I asked him what was the matter. He said that after I persuaded him to wear goggles he went and got the fellow next to him to wear goggles, and he showed me the chip that was saved from going through the goggles. That man was his brother's keeper. There was no picture in the next morning's paper about his being a hero either. It is just what I mean when I say, get the co-operation of your men. When you show your men that somebody cares you can get them. Human nature is pretty much the same, I don't care what nationality it is. I got a letter the other day from a chum who is "over there," and he said: "We have made the supreme sacrifice; we have given up everything. I have given up all plans; I have no right to plan for the future." And he says: "We will all go the limit, and further than that. We will give our lives for our country; and the boys over here all feel they will do anything if somebody at home only cares." Now, think that over. I have yet to see the man that won't respond to the plea if "somebody cares."

Then we come to educating the old man. Difficulties right away; bad habits; been doing it for twenty years and got by; old 1492 stuff. I don't know whether you can get him. We have succeeded in getting a lot of them. You have simply got to play each man individually. You have got to find his weaknesses. One of the most effective ways to get him is to show him what a similar accident cost John Jones. Then I believe firmly in the safety engineer getting away from behind his desk and getting out into the plant and studying each and every operation, and I do not see how accident prevention can be carried on by any man unless he knows what the men do; going down and running the machine himself. We had a case like this: A constant run of accidents, the men skinning their hands in handling large barrels. I said I was going to find out why this always happened and I took my assistant and went out to the place where the accidents occurred and I found the men had to get down in a stooping position when handling that barrel, sort of work it out like that (indicating) until he bumped his hand. It was a most awkward position yet some people would say, "There is a careless accident; could not be prevented." We prevented it by making it possible for him to get the barrel out by mechanical means. You cannot prevent accidents by wearing a white collar and sitting behind a mahogany desk. You have got to get out on the job, and investigate each accident. You may say, what is the use of investigating trifling accidents? You cannot tell when it will disclose something that will entirely remove a bad hazard. John Jones can skin his hand at the door. Who knows but what the door opens the wrong way. Go out and see. It always makes a man feel good to know that somebody cares, when he's hurt. Then an investigation makes the foreman know that somebody higher up is watching and he will be on the job.

It goes against the grain to drive the average American workmen, you, I, or any of us. If you know anything about the American worker, he has a natural tendency to disobey signs. He doesn't care for signs, that is because he was not brought up right; because as a child he was not taught to do as he was told. That reminds me of a story told by a friend of mine who was over in Germany, previous to the war, studying accident prevention. He was sitting one afternoon in the hotel window looking out on the street. He saw a park in the center of the street covered with grass and in the center of that park was the sign "Forbidden." Two boys were playing ball. One of the boys missed the ball and it rolled over onto the grass. He thought he would watch and see what they would do. One of the boys stood guard watching the ball and the other disappeared and in the course of five or ten minutes he came back with a long rake and got the ball and they went on playing. Now, imagine an American boy doing that. He would have had that ball a half hour before and broken a

window, but those German boys were taught to obey instructions and they did, and that is where we must start: in the homes to get good results. We instinctively teach children to obey table manners so that when they are older they do the prescribed thing according to etiquette. But how often do we teach our children when crossing the street to look first to the left and then when they get to the middle to look to the right? How simple a thing, but yet how many accidents it would prevent.

Then we can also reach the old man, I mean the old employe. Take the man after he has had an accident, when he has had it driven home to him that he himself has lost money, and make a missionary out of him. Tell him to profit by his experience and spread the gospel and he will do it too, nine times out of ten. I have never seen it fail. Don't simply have him sign the compensation receipt and say, "Good bye, John Jones." Have a talk with him and you will make a missionary out of him that will prevent many careless accidents. Then what schemes can we apply in educating the old man? There is the bulletin board system. I firmly believe in the bulletin board; not a haphazard bulletin board. Make it a *real* bulletin board. A bulletin board can be a safety bulletin itself without a thing on the inside and the men will pay attention to it too. I believe in enclosing the board because it prevents the practical joker from getting in his work. We have quit putting a bunch of bulletins on our bulletin board. We put a single bulletin on the board right in the center each day and it is changed every morning. There is no chance for a fellow to come up and say, "I saw that yesterday." It is changed every day and drives that one lesson home. Then I say, reach the folks at home, get their influence, try sending bulletins home. I like the little idea of sticking a spicy, one paragraph bulletin in the pay envelope. Not on the cover. The cover is torn off, but by putting it inside the envelope he has got to grab the bulletin when he grabs the money and it generally reaches home. The plan, theoretically, is that if the man knows somebody at home cares he will be careful. But a note of warning—don't create fear. A man doesn't have to be fearful, just careful.

I should like to refer to a thought which struck me in the previous address. The speaker said something about the sacrifices of the workmen who are not getting an adequate living wage. I just want to quote Ex-President Elliott, of Harvard, who said, "I deny any man the right to use the word 'sacrifice' unless he is going over there." I think that that settles that question. (Applause.)

Then we come to instructing the foreman, the crux of the whole problem. The foreman's attitude is reflected right down to the last man he has under him. He is either for you or he is against you. There is no middle course. You cannot get by without him. You have got to make him feel that safety is just as much a part of his

work as to turn out a ton of steel. It does not do him a bit of good to turn out a thousand dollars worth of product and injure a thousand dollars worth of man. Goodness knows, we are having trouble enough getting men today. The greatest trouble with foremen is the egotist, the know it all type. I don't know how you are going to get him. A foreman with an open mind is at a premium in our industries today, and a sure sign of progressiveness. Such a fellow will rise. You have to play a foreman; you have to know his weaknesses; you have to study him. It is foolish for a safety inspector to go to the foreman when he is not in a receptive mood. You cannot butt in on him when he is having trouble in getting a shipment and his whole gang is laid up and not working and say, "You had an accident here yesterday; what is the matter here?" You know what he will say. There is no chance of putting it over then and yet some fellows wonder why they don't get their foreman. Some foremen will fall for flattery. Go ahead; flatter them if that is the way you can get them. One of our foremen, a hard headed sort, who has been with us for over twenty years, was somewhat hard to handle, on this accident proposition. We laid for him. One month he had zero days lost. We sat down and dictated a little letter: "We notice in the such and such department that they had zero days lost, due to accidents, this last month and there is no doubt but that this elegant record can be attributed purely to Mr. So-and-So's personal interest." This letter went to his chief who wrote on it: "Good work, Charlie; keep it up." The next day we saw Charlie showing the letter all over the plant and shortly after we saw him giving some of his workmen hell because they were not wearing goggles; and I tell you now any man who has an accident through disobeying orders had better look out for this foreman. Of course this was salve and some of you may say these are rather two-faced methods; but our case is just. (Applause.)

The foreman who won't receive the safety idea is like a man who digs a hole, crawls in and pulls the dirt in after him. He is going to get buried if he does not line up and he might as well get ready to line up with the band wagon because he is going to get licked if he doesn't.

In playing the foreman the helpful attitude is the way to get at him. Don't let him think you are butting in on him. You cannot get him if you do; but make him feel he is running his department. Get him along with you; feel him out; make him believe it is his idea when you suggest a guard. Some of the best guards we have designed are supposedly developed by foremen who really didn't have a thing to do with them. They stay with you then and, well,—help the workman that doesn't use that guard! I like the idea of the foreman personally instructing the man. When a man has an accident, go up to him and

pat him on the shoulder and say, "You didn't do that quite right; I will show you how to do it so that you won't get hurt again." I know a kindly demonstration like that will reach him, I don't care who he is. If you go and say: "Here, if you have another accident like that, out you go." You won't get results. Now, in general, there is only one way to reach the foreman. They must believe in you heart and soul. If they do not believe in you and you lose their confidence the stuff is off.

Now, what is the value of all this? In my subject I was supposed to say what the value is. I am going to ask you, is not the mere act of making our industry a safe place in which to work a sufficient recompense in itself? It certainly merits no further reward. An employer who considers the dollars and cents in a selfish way is not doing his bit in the country's present crisis. It is not a matter of dollars and cents. It is a matter of conserving human energy and we have all been told today how vitally important that is. This safety work is a big task. It is the country's job; it is not for you and me to carry on individually. We must all act together. There is plenty of room for all the workers we can assemble and then some. We hear the man say who is engaged in safety work: "Well, if my boss will only back me up I could do something." He is a weak-kneed individual. Get busy and sell the idea to the boss. If the boss won't take it up, seek other fields; you cannot waste your time with bosses like that. They have got to be behind you.

No matter how we turn or how we look at this accident prevention problem, no matter how we dig around for the answer, we still come down to the basic principle of education.

Now, it is time to close this little talk. It has been a pleasure to give it and a far, far greater pleasure to anticipate that it has been received in the spirit in which it is given. These are busy days; we are all under pressure, but I hope you all will get the inspiration here to go home and act.

CHAIRMAN EMERSON: The next subject on the program is "The Work of the American Museum of Safety in the Prevention of Industrial Accidents and Diseases," by Arthur H. Young, Director of the American Museum of Safety, New York City.

I take pleasure now in introducing Mr. Young to you.

THE WORK OF THE AMERICAN MUSEUM OF SAFETY IN THE PREVENTION OF INDUSTRIAL ACCIDENTS AND DISEASES.

By MR. ARTHUR H. YOUNG, Director of The American Museum of Safety, New York City.

Mr. Chairman, ladies and gentlemen: I wish to thank you on behalf of the Trustees of The American Museum of Safety for the opportunity of taking part in this very timely and important conference.

I think we are agreed that the day of conservation is coming into its own. We listened to the appeal for the conservation of the morals of our young men and helped the Y. M. C. A. to raise, not a three milion dollar fund, but a fifty million dollar fund; and we heard the cry for the conservation of our wounded soldiers and backed the Red Cross to the extent of one hundred million dollars. We have not cried the conservation of mankind from industrial accidents in a countrywide compaign, with parades, with drums beating and flags flying, but I want to stop for just a moment, in view of the remarks made by the previous speaker as to the part Uncle Sam is doing in his own field of safety, to speak, not as Director of The American Museum of Safety, but as Chief Safety Expert of the United States Employes' Compensation Commission—a position which I consider the greatest honor that could come to me, at a salary of one dollar a year.

No flags were flown when Uncle Sam started in on his accident prevention campaign. That was probably because your own Lew Palmer had something to do with the starting of it. It was his indomitable energy which led him to call to the attention of Mr. Little, Chairman of the United States Compensation Commission, the very great necessity of protecting employes of the Federal industrial establishments. It is a horrible paradox that we have to go to such lengths to safeguard the individual worker, so that he may more efficiently make the munitions which will kill hundreds of thousands of our fellow human beings across the water; nevertheless, it is necessary.

As a result of the combined activities of Mr. Little and Mr. Palmer, a survey of all of the Government arsenals and navy yards was conducted by the National Safety Council. They called on their membership for volunteers. When the survey was completed—and we blush to admit that it showed the Government establishments far behind private establishments in safeguarding dangerous machines—

the first recommendation made was that permanent safety engineers be appointed, as the survey would serve no purpose if the recommendations for safety were simply pigeonholed. The recommendation for safety engineers went to the head of the War Department, to the Chief of the Ordnance Department and to Assistant Secretary Roosevelt of the Navy Department. Gentlemen, it took not over five minutes' consideration by each of those gentlemen to get their entire acceptance of the plan, and, forthwith, the Civil Service Commission was asked to secure the best safety engineers available for our navy yards and arsenals. These positions have been filled with safety experts, not all graduate engineers, but all of them practical men. Some of them gave up much more remunerative positions in industrial lines to do their "bit" during the war.

Every recommendation, practically, made as a result of the initial survey was accepted by the Governmental Departments, the estimates made, the money appropriated; and the safety work is now going on just as fast as it can be carried out. Already, in those yards where we have reliable statistics for comparison, we have shown a forty per cent. decrease in the accidents. You have not read about it in the newspapers. I am sorry I cannot discuss in detail what these recommendations were, but I hope that a Congressional investigation may soon make this possible. I want to comment on this for a minute, because, only yesterday, I read in the Philadelphia papers something that made me rather indignant as an American citizen—namely, the perversion of these safety recommendations for political purposes connected with an official establishment located not far from Philadelphia.

But to proceed to The American Museum of Safety: The function of our Museum, broadly speaking, is that of visualization. It is visualization, concretely placed before you, of the problems and the progress of the safety movement. This requires two correlating activities: First, an investigation and research department, including the library, which may tell us intelligently what we should visualize. In the Museum's library are all of the books published in the English and foreign languages, with which we can come in contact, that have to do with the safety movement; in it are copies of the papers presented at such conferences as this; the bulletins, employes' magazines and similar plant publications; statistics gathered from every available source, photographs, and lantern slides. Supplementing the library we have what we would like to call the laboratory. It is just a little shop, at the present time, where we can work out the solution of problems presented, as for instance, remote control apparatus. It is for little things like that that the laboratory is necessary.

Now, because of the research work, the attending of such congresses as this, the inspections, the conferences which are held with safety engineers and experts all over the country, many interesting exhibits have been gathered in the Museum. I regret very much that it is necessary for me to tell you what The American Museum of Safety is and what we have there. There is something wrong with The American Museum of Safety, or something wrong with the safety experts and others interested in safety movements in this country if your first knowledge of The American Museum of Safety comes through my telling you of our resources and activities.

I know how important it is to finish my talk on time, so I will endeavor to give you a telescopic view of the Museum. Probably the first exhibit to strike the eye of the average visitor is an elaborate collection of photographs, drawings and descriptive text giving a very practical and complete exposition of the hazards of the felt hat industry and, related to that, a similar presentation of the subject of dust and fume control. The original investigations on which this exhibit is based, were made by Mr. John Roach collaborating with Miss Lillian Erskine under the direction of Colonel Lewis T. Bryant, of the New Jersey Department of Labor. No one whose work requires dust and fume control could well afford to make an installation of apparatus without consulting Mr. Roach's department or the Museum's exhibit. It does not cost anything more than the trouble to visit the Museum, and Mr. Roach and the Department of Labor of New Jersey will co-operate by giving blue prints and copies of any photograph requested.

Then we have an immense machinery platform, the gift of one of the large insurance companies, really, a museum in itself. On it are installed, not models, but wood and metal working machines, actually in operation and guarded by standard safety appliances. Its purpose is to show that safety standards do not interfere with the productive operation of the machines. Your practical mechanic, your pattern maker or carpenter can come to the Museum and use the planer not only with absolute safety, but working better and more quickly than he can with the unguarded type. There are punch presses installed there, lathes, grinding wheels, and an oiler's platform, safe and yet efficient. There are proprietary devices such as belt shifters, clutches, and shaft hangers, all selected with the idea of getting that which is safest.

There are also on exhibit in the Museum ladders and scaffolds made by practical men, as well as machines innumerable, of model and operating sizes and conditions. We have some four thousand lantern slides, not filed away in cupboards, but set up on illuminated racks with an illuminated description accompanying each slide. The na-

tional safety Council's Safe Practices Leaflet on rope slings and hitches is visually reproduced by knots, slings and hitches tied on ropes.

As many of the exhibits as practicable are portable. This is because the related activity of visualizing safety is the dissemination of information. Some of these portable exhibits are in use now; one is in the Province of Manitoba in Canada; one in Chicago; one on its way to Indianapolis; another is being prepared for the New York State Safety Congress at Syracuse. These exhibits are loaned without any expense other than that of shipment.

Those of you who are attending this meeting as inspectors of State Departments, consider it a part of your duty, I presume, to assist in holding foremen's meetings and community rallies. Don't you think it would be worth your while to look over The American Museum of Safety and see if it does not visualize something you need to know? If it is first aid, if it is welfare work, dust and fume control, committee organization, almost any subject related to safety, we can surely give you help at the Museum. We can also lend you lantern slides and give safety talks, if desirable. The Museum does not ask you to become a member, for it is partly supported by philanthropic individuals, none of whom would regret that we had gone beyond our limit in helping the country at large. We do not need to blush for what the Museum has done in that respect. We are proud of it, because all our members and the institution itself have done all that we have been able to do. I am only sorry that the Museum has not been financially able to do more in this great movement.

We try to accomplish by means of graphical charts the dissemination of statistical information. It is useless to talk of one million six hundred thousand accidents in industrial plants in a year, or twenty-two thousand lives lost in industrial plants in a year; but if a chart can be shown that indicates the bodies of these men laid shoulder to shoulder, side to side, it concretely brings the matter home to us. The compilation of statistical information and the preparation of such charts has been made possible through the generosity of another large insurance company which is about to put into the Museum a twenty thousand dollar installation of charts, the copies of which will be loaned. Dr. Hoffman, who talked to you this morning, believes very much in this visualization of figures by lines and blocks and other graphic features. One of the charts shows the progress of the reduction of mortality on the Panama Canal. Now we all know that very little attention was given to accident prevention when the Panama Canal was built, but you would realize, more than one could tell you in a full evening's lecture, just how horribly safety was neglected there if you could glance for a moment at Dr. Hoffman's charts. For each of four years the mortality rate is indicated by a line made up of sec-

tions of different colors, each color representing the cause of mortality. There are industrial accidents, typhoid fever, cholera, malaria, criminal assaults, fights and so on, and the whole line decreases in length over the four years excepting for industrial accidents which is charted in yellow. It is the second section of the line and it is constant all the way down. It shows the accidents remain. Now, the visualization of statistics in that manner is valuable when speaking to workers.

I wish I had time, as one of our friends suggests, to "take another shot in my arm" and tell you what we hope the American Museum of Safety *will* be. Not merely a collection of accident prevention devices, but a great industrial museum, portraying the different lines of industry and showing safety incidentally, as for instance, in the mining industry, actual working models of anthracite mines, iron ore, copper and other mines, and the various machines and processes therein equipped and standardized for safety. We believe that it would be more instructive for the visitors to have the Museum visualize safety as incidental to manufacturing processes, rather than to group the various safety devices: but, of course, this plan is not feasible until we have progressed far beyond where we now are.

It will be of value to the American Museum of Safety if the discussion which is to follow my talk will be very frank. If you will tell us where we are falling short of our function I pledge you on behalf of the Trustees that we will do our best to meet the situation. I just want to leave this thought with you: That the American Museum of Safety is not the New York City Museum of Safety; it is not the New York Museum of Safety, nor the Eastern States Museum of Safety. It is The *American* Museum of Safety for *all* the states; it is for the entire nation.

CHAIRMAN EMERSON: The next speaker will be Mr. Elmer Spahr, of York, Pa., President of the Pennsylvania State Conference, Bricklayers', Masons', and Plasterers' International Union, who will lead the discussion on the subjects presented this afternoon.

I take great pleasure introducing Mr. Spahr to you.

MR. SPAHR: Mr. Chairman, ladies and gentlemen, it is almost a question in my mind as to how well I am qualified to discuss the preceding papers, excepting those which deal particularly with how organized labor can aid in preventing industrial accidents. I have attended numerous conferences and meetings centering about the vital topic of safety and have listened, or rather patiently waited, for some speaker to discuss safety in the field of endeavor occupied by the craftsmen I represent. I refer to the contracting and building industry in Pennsylvania. The organization I represent is the Pennsylvania State Conference of the International Union of Bricklayers, Masons, and Plasterers. Obviously, my principal concern is for safety in the wide field of building and contracting. All the discussions on safety at this conference have been excellent and much that has been said, from the standpoint of employers and from the standpoint of labor representatives, is of general value for the cause of safety. However, I feel that

the principal specific discussions have dealt with the working conditions in shops and the methods for promoting safety, efficiency, and health among shop workers. The workers I represent are not essentially shop workers.

Contracting and building, involving many outdoor tasks, provide what may be termed seasonal work for our craftsmen during possibly nine months in the year. Under ordinary conditions, insurance companies do not classify our trade as particularly hazardous. However, methods of building construction have developed in the last fifteen or twenty years, greatly to increase that hazard. Two obvious hazards are the great height to which buildings are erected at the present time and also the depth beneath the surface of the ground that these buildings are started. The workers of our trade are essential to the construction at both hazardous extremes of a building.

Many of our organization are highly skilled, some to a much greater degree than others. You may observe for yourself the class of workmanship of which we are capable by the beautiful structural handiwork in this magnificent Capitol Building and by the external construction,—the stone masonry,—all of which has been arranged and placed in position by our members.

One question asked at this conference, I believe by Mr. Fonda, was, "How can we get the men to appreciate what we are doing for them?"

I have not been so long removed from the ranks of workers that I do not still feel myself a worker, so that, to me, is quite a pertinent question. I feel that the first thing that must be done, by the employer—whatever he has in mind, whatever is his motive,—is to convince the worker that something is being done "for him," not "to him." For example, in the motion picture on safety, exhibited here last evening, was shown a man working near hot metal and, due to the heat, the worker desired to wear as little clothing as possible. The foreman attempted to equip the worker with goggles, clothing and leggings to protect him against injury but the workman seemed to think that his rights were being imposed upon, that he was being discriminated against. If that same worker could have the real facts presented to him, by picture, of a victim of a burning accident, his foreman would, in the future, have less difficulty in persuading such worker to wear the safety equipment. I believe that motion pictures can present to the worker, the lesson of safety first more convincingly than can any other means. I believe that safety first pictures can be one of the greatest factors in promoting carefulness among workers and in eliminating accidents.

The question of how labor can be of service to the Department of Labor and Industry in preventing accidents is one of the most important subjects for discussion. I believe that organized labor, through its regular meetings, is in a position possibly better than many of your shop committees, to assist in promoting safety. Labor organizations of the various trades meet regularly and have meeting rooms with bulletin boards. Frequently a single meeting room, equipped with a bulletin board, will be occupied on every night of the week by different unions of varied trades and usually such meeting room is occupied by a large Sunday afternoon meeting of workers. Such halls, devoted principally to the meetings of labor organizations, are maintained in large numbers throughout the State.

Safety first posters with pictures,—such as are issued by the Department of Labor and Industry,—create more real thought for safety among workers than can be realized. The "safety first" slogan and "safety always" have been uttered so much that there is a feeling that familiarity with these words, among workers, has taken the edge off their real meaning. But when a worker sees a picture of some workman, probably in his own trade, who has met with an accident, that picture will make an impression. It will be carefully examined and the thought is certain to come to the observing workman that he may be the next fellow to go home crippled to his family if he is not careful. That fact makes the

average worker stand up and take notice. Every encouragement should be given to the erection and maintenance of bulletin boards for safety in the meeting room of every labor organization. As I said before, one meeting room may be the point of assemblage for a number of labor organizations. On one evening, some beneficial organization may meet in the room, and I believe that beneficial organizations are today showing great interest in activities working toward the prevention of accidents. Because an accident causing an injury to a worker is almost certain to drain their treasury to some extent.

Shop committees for safety, unfortunately, frequently have mistaken ideas of the motives back of their creation. Some men may think that the work the safety committees are doing is solely for the good of the employer,—to save him from paying compensation. Some workers may view it from that improper angle. That is usually the attitude of the less informed man and an era of education is necessary with convincing proof that safety work is always for the benefit of the worker as well as for the benefit of the employer. Men with wrong viewpoints can frequently be enlightened by their fellow workmen, members of the same labor organization. I feel that such method would be the best way to instruct such men. Mr. Morgan calls it "personal contact." Very well, if you can get your men to believe that you care about them, that it really matters to you how they are treated, that their welfare concerns you and the welfare of their families and their children, I think then you have adopted the best plan to get their co-operation for safety. Get an occasional workman into your office; talk with him casually and if you find some workers interested in the welfare of the plant, take a bit of time and write a note to them. I feel that if a workman suggests an idea to his employer that, even if his idea is not valuable and if you may disagree with him regarding it, tell him so in a friendly way and he will probably be convinced of the fact that you are at least interested in the workers.

As to the turnover of labor.—I feel that no one man is always fitted for the position that he may occupy. The taking of men from one industry to another has recently been widely discussed. This condition frequently happens in our trade. In fact the winter season of the year is now approaching when the members of our organization will not be able to work on construction jobs. There are three or four such months in the year when many of our men may be idle.—idle at least so far as their particular trade is concerned. Our organization has taken up that matter with the Director of the Bureau of Employment of the Department of Labor and Industry. One of our men obtained work in a chain manufacturing establishment and here enters a peculiar situation concerning poisonous gases. About a week ago I happened to see the man who had obtained such work. "Bill," I said, "I thought you were working in the chain plant. Why is it you are not working?" He replied, "No, I am not working there now." I said, "I thought that would be a good winter's job for you." He answered, "Well, you see I cannot stand it."

That seemed peculiar to me because I knew he was a good workman and I knew the job would not be too heavy for him. I said to him: "What is the trouble?" He said: "The links are cut and forged together and there is a small machine there that heats them almost to a white heat instantly and we beat the links together and then the next link comes up and there is some oil on that metal and the oil gets consumed and the room becomes full of smoke. I stood it about two or three weeks; I am sick," I said, "What seems to be the trouble?" He said, "I don't know just exactly what is the trouble; no rheumatism; I can't sleep; can't eat; well, I finally quit yesterday."

"What does the foreman say?" I asked him. He said, "I said to the foreman, I don't know what is the matter but I cannot stand this; and the foreman said, 'everybody can't stand it'." I asked him whether there were any ducts leading

from the small welding machine to carry the gas away. He said, "No, I don't think there are." That man has gone away from that plant. He has told me that he cannot work there and will very likely tell some other men. That firm is advertising for help.

The subject of unemployment or out of work insurance, or something to that effect, has been discussed. Would it be right to make a man work in a plant of that kind where the employer does not put in a conveyor system to take the poisonous gases away; to compel those men to take compulsory sickness insurance? I believe not.

In closing, I want to make a few remarks as to the attitude of labor in the war. Mr. Wheaton, I believe, has come here and taken an entirely different subject and asked labor whether we are with the Government. The action taken at the Buffalo Convention,—where there were labor representatives from all the trades and from the various states in the Union,—when the resolution was presented whether we are with the Government or whether we are not, it was unanimously decided that we are with the Government. He has come here and asked industry and he has asked labor, "Are you with us?" We are certainly with the Government. When the war started it seemed that there was a propaganda that it was the rich man's or the capitalist's war: that the same methods of enlistment or draft would be pursued as during the Civil War—if one happened to be selected, if one had sufficient funds, some one else would go to the war and the man of wealth and his boy could stay at home. It has been demonstrated clearly to the worker that in this war this is not the fact. We have the example of the four sons of a very prominent contractor who has sufficient wealth, if that would have kept them from going to war. They are down at Camp Meade, I believe, and are training there beside the former hod carrier. We feel it is our war as much as any one's war. (Applause.) We have no more to lose; we have no more, but just as much as the capitalist. Our home, no matter how humble it may be, is just as dear to us as your palace. If we lose the war, we lose that; but we are not going to lose the war. We are going to stick, we are going to be with you. (Applause.) We are going to stick and I believe that has been demonstrated.

As to these conferences, "What can labor do to aid the Department of Labor and Industry?" We deem it a privilege to come up to the Department of Labor and Industry and air our little troubles and we always get a square deal. I want to say to the manufacturers, to the representatives of manufacturers that if you have anything that is a problem to you to take it to the Department of Labor and Industry. We quite often have conferences there. We are invited to meet some of the manufacturers and we discuss various problems and we all go away satisfied; quite often the problem has been solved and we feel so much better for having been and having talked the matter over.

I feel that the Department of Labor and Industry of this state is one of the greatest mediums for bringing organized labor and capital to work in harmony that there is in the state.

CHAIRMAN EMERSON: The next speaker will be Mr. Sidney W. Ashe, of the Educational and Welfare Department of the General Electric Company, Pittsfield, Massachusetts, who will continue the discussion.

It gives me pleasure to introduce Mr. Ashe to you.

MR. ASHE: Mr. Chairman, ladies and gentlemen, I know you are all anxious to see the moving picture. I am too; so I am only going to take a few minutes of your time. I think it is the privilege of the last speaker usually to make a little summary of the general remarks that have been made and while it would be

rather a long task to do that I hope I may be able to leave one or two concise thoughts with you. It has been a great pleasure for me to come down here from the Berkshire Hills, just as has my friend, Mr. Morgan, from Massachusetts, to attend a conference such as you have had here the past two days, with your beautiful surroundings, with your comfortable chairs and the great enthusiasm that has been shown and I feel it cannot help but inspire any one, and I know and I feel that it has been a very great pleasure to me to come down here and meet with you all.

I have known for a long time of the splendid work that Commissioner Jackson, Mr. Palmer and Dr. Patterson have been doing, but I think that in coming down here and being in intimate contact with it made me realize to a very much greater degree what wonderful work is being done and how fortunate your Commonwealth is that it has such men doing it.

In the remarks that have been made I think we all ought to congratulate ourselves on the very courageous and splendid spirit of co-operation that has been shown by those here, by the representatives of labor organizations and by the industrial men. I know that there are very few other states where the very great interest on the part of labor itself in the prevention of accidents exists as seems to exist in this Commonwealth, and such interest is naturally helpful to all those who are giving their life work to this problem, because if you analyze the matter you will see, as pointed out, that, after all, the problem of accident prevention is very largely, almost entirely a problem of the working man himself. It has been shown here, for instance, that less than one per cent. of the accidents occurring can be eliminated by using safeguards—one per cent. It has also been mentioned that over fifty per cent. of the accidents that occur industrially today are due to men who have been in the employ—in new employment for less than six months. Then, going a step farther, you can see that despite the fact that one per cent. of these accidents can be eliminated by the use of safeguards, employers are spending a great deal today, thousands of dollars, trying to clear up that single percentage, so your problem really comes down, as I see it, to a matter like this: If through the labor organizations you can impress upon the workman the importance of caution,—and I know it can be done because I have found that by making a direct appeal to the working man and being sincere in this appeal, making them feel that you believe in their co-operation you can obtain wonderful results. You must be sincere, however, in your efforts. Where the men get together themselves, if they could be made to feel that the elimination of accidents rests entirely with them and is a personal problem—and that it is a matter that requires just a little extra precaution on their part you would eliminate a large percentage of the accidents. That is the way we do it—I mean those who have been successful in carrying on educational work, and why cannot the men do it themselves?

Now, the next important feature is this matter of the continual shifting of labor. If you could make the average man realize that it is against his interest to shift his job at much less than five year intervals—five years may seem a long time to some—but if you could make the average man realize that he ought to stick to his job for at least five years, why, it would be one of the greatest blessings in this country; because if you go to any of our large manufacturing organizations you will find each year thousands of men applying at the gates of these organizations who are totally unskilled; and these men just keep coming and going, floating from one position to another. If we could only get these men vitally interested in their own industry, and have them stay at their task for a few years you would find that the safety problem would almost disappear.

There is another thought I have not mentioned; that is the part that the wives and sweethearts play in this work. Don't forget that this war is a woman's war

and the war that all the men are going to be in has got to be won by the women, by the thought, the love; and the prayers they will say all the while they are doing their knitting. And there is a tremendous amount yet that can be done by the wives and sweethearts if they would realize that the most important task is to keep the men or the wage earners in the very best physical condition. If you could make the wage earner contented when he went to work, free from worry, free from little home troubles, it would be a tremendous blessing to the average man; and that is the work that the wives and sweethearts can do. They can keep the men well and contented and they will stick to their tasks. If they can do these things I don't think there is any question about winning the war.

I have not very much to say about the American Museum of Safety, because I know with such a splendid executive as Mr. Young and the work that he did for Mr. Gary, that there won't be any question at all as to the success which he will achieve with this organization. Mr. Young is one of those energetic workers, enthusiastic over safety work and there will be no question about the results he will get.

There is one other thought I would like to leave with you and then I am through. I was glad to see it brought out at the meeting yesterday by one of the labor men that labor itself feels that more discipline should be used for safety work. You go into a big plant today where there is difficulty in getting labor and there is a gradual breaking down of discipline in safety work. Why? Because the foreman is afraid to exercise the pressure to keep the men up in the wearing of goggles and things of that sort; afraid to do it on account of the difficulty in getting men, afraid that the men won't stay; and that is one of the most unfortunate phases of the safety movement today; this gradual breaking down of the discipline; and yet we all know the winning of the war is going to come about as the result of very much greater discipline than we have now; and, therefore, if anything can be done to keep up the discipline in safety work it will count considerably.

Another suggestion has been made, that if you could still further lower the waiting period and place a greater financial burden on the employer it would add still greater impetus to accident prevention. I think that this is not fair—you will pardon my saying so—because we have got a fundamental law on this whole matter that the burden must be equitably distributed. That is the fundamental law that Kelvin developed, that you must have equality of interest and your burden must be equally distributed in order to get the maximum of benefit. Now, as it is today, when a man is injured he gets two-thirds of his pay. If he is a member of a benefit association, with the extra amount from that, he is almost getting as great pay when injured as he received before he was injured. There is no incentive for the workman to keep from getting injured if he is going to get as large pay when injured as he gets when not injured; and if you are going to try to exert a greater pressure on the employer to reduce his one per cent. and at the same time going to weaken your penalty on the workman to keep from getting injured, you are working the wrong way. Now, I am very frank in telling you of these things because I think when you analyze them carefully you will see the justice of my remarks. Do not lower the waiting period beyond one week.

I thank you all now for the splendid opportunity I have had. I have had a very pleasant and profitable visit and I know it has been a very, very successful conference for all of us.

CHAIRMAN EMERSON: This ends the set program for this afternoon. There is opportunity now for a general discusssion of any or all of the papers if any person so desires.

I would ask that in discussing the papers you first give your name and residence in order that they can go properly into the record.

E. S. CHAPIN, Safety Inspector, Pennsylvania Railroad Company, Philadelphia. There were two things brought up in discussion here upon which I may be able to shed a little light. One, the use of pictures to centralize the interest of the men in precaution. Psychologists tell us that the mind retains permanently about forty per cent. of what the ears take in; whereas the percentage is over sixty of what the eyes take in. That may be the explanation of the value of pictures, whether motion pictures or still pictures.

The other point which has been mentioned is the industrial army. It has been mentioned in co-ordination with the military army. Now, the size of the industrial army has not been touched upon. The results from the European experiences have shown that it takes five men behind the line in the industries to keep one man going at the front; so that if we send one million men to the army, as the papers say now, it means five million men must be kept working, kept safe, kept in good condition, to keep that million men at the front.

J. C. WRIGHT, Order of Railway Conductors, Harrisburg, Pa. Mr. Chairman, with your permission, I would like to say a word. In the name of the labor organizations and in the name of the soldiers we have at the front now, I want to appeal to you to send your magazines or your journals to any of the Y. M. C. A.'s and they will be forwarded directly to our soldiers.

H. G. DAVIS: In looking over this program it is very evident that the mining industry of the State was not considered when the same was made or formed. It was not my intention to say anything at this conference, but I fail to see why or how the remarks made by my honored friend, Mr. Maurer, fit in at the meeting this afternoon. First he described an old man at the age of forty in a decrepit condition, and so on. I have worked in and about the coal mines for forty-five years and I am not old yet. I have a daughter who, by the way, now in the City of Harrisburg and who was present here at some of these meetings, who, for seven long weeks was unable to walk on account of rheumatism. She never saw the inside of a coal mine in her life. I simply state that in order to let you know that all miners do not get stiffened up and crippled by their work or don't all have to lie down in water.

I also want to touch upon another thing that Mr. Maurer said. He took particular pains to slap the safety committees. I have been connected with the D. L. & W. Railroad Company's Coal Department for thirty-six years in various capacities, from mule driver to a superintendent, and during some of those years we endeavored to organize and maintain safety committees, and I want to tell you that we did everything that lay in our power to encourage the organization of those committees and I am very sorry to say that many of the men who were appointed on those committees were abused because they volunteered to act in that capacity. I simply say that to refute what Mr. Maurer said here today in reference to the mining industry.

I do not take very kindly either to the slap he made on the bosses. While we have, perhaps, had in connection with coal mining some very small men in that capacity, yet I believe all of them are not so small. Some of them are some of the biggest men you could find in a day's travel.

I want to say to you gentlemen that this conference, in which every one of you have taken part, is a great credit to the members of the Department of Labor and Industry and I cannot say an unkind word with regard to any member of it. Most of them, particularly the new Commissioner, I consider a personal friend of mine, connected with the National Safety Organization as I am, of which Council he has had the honor of being President. Those men are doing good work, but I think this organization wants to broaden out and bring in something of the mining industry. It is surely the greatest industry in this State.

CHAIRMAN EMERSON: I might say that the speaker's remarks have a great deal of truth in them, but I am informed that the law creating the Department of Labor and Industry does not provide in its activities for the mining industries of the State; so that was one of the reasons why the program is a little light on the mining side.

CHARLES H. SPOTTS, Brotherhood of Railroad Trainmen, Harrisburg, Pa. I want to say today that I have been studying ideas on how to educate the foreigner. I was four years educating one and I sat today and listened to Professor Roberts doing in about fifteen minutes what I know I was nine months in doing, getting them started. I think that is a wonderful idea. But the one thing I want to say that each and every one of you can do is the smallest thing in the world. Say, "How do you do," to him when you meet him or say "Good morning;" treat him as a friend. They are so accustomed to being downtrodden that if you don't treat them as friends you will never make citizens of them. The one I helped to educate became naturalized and is a good American today. We have got to do as God tells us; do whatever little thing we can to help the other fellow along. It is an easy thing to say, "How do you do" to these foreigners and treat them decently and they will then think that the American people are ready to help them. It is a hard lot they have when they come to this country and are not able to speak our language. If you had been in my position sitting up here looking in the faces of these foreigners this morning you would have seen how pleased they were to get an idea of the American language, it was well worth while to sit and look at them. And here we all have opportunities but we do not take advantage of them.

In the "safety first" work that I am busy in on the railroad some call me a "nut", maybe I am; but I don't care whether it is a boss or an employe, if I see him doing anything he should not do I tell him about it. Once a train master came walking up the track in the middle of the ladder when there was a six foot space outside where there are no tracks. I said to him: "Don't you know trains are no respectors of persons and would just as soon kill you as anybody? Why don't you get over where you belong?" He said, "Do you mean that for an insult?" I said, "No; but you have a six foot space there, where you could walk in safety and if you walk on the track you are likely to get killed." Some times the best way to get a fellow to be a "safety first" man is to insult him. I remember one fellow on the railroad who did not care much and one day he came out to work as reckless as ever and I said to him: "What's the matter? Did you and your wife have a fight today?" He said, "No." I said to him then: "Don't you like your children any more?" He said, "Sure". I said to him: "Then what the devil are you trying to kill yourself for." You have got to get in under their skin any way you can to make them realize and think seriously.

I think we must all take a personal and individual interest in the matters that have been brought before this conference and we will then all be successful in our endeavors and so will these conferences.

CHAIRMAN EMERSON: Is there any further discussion on any of the papers?

It has not been my pleasure to attend all of these meetings. I think they covered the field and have been a credit to the Department of Labor and Industry considering how hard it has been this year to get speakers when every one is so busy. I believe I am safe in saying that these conferences have become an institution and that no matter how much they may have to be curtailed during the war,

nevertheless, they will be kept up in some shape or other annually and with the hope that any policies which were started here, and movements put into being, will go on reaping benefits wherever used and that after the war,—that happy time we are all looking forward to,—after the war, they will be resumed with far greater strength. But, in the meantime, the Department of Labor and Industry is going to do everything possible to keep up these conferences annually.

REPORT OF CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS.

On November 20, 1917, the day before the opening of the Annual Welfare and Efficiency Conference, there was held in the Hall of the House of Representatives at Harrisburg the most successful of all the Conferences of Industrial Physicians and Surgeons thus far convened under the direction of the Department of Labor and Industry.

The following program was presented:

PROGRAM.

Chairman: DR. FRANCIS D. PATTERSON, Chief, Division of Industrial Hygiene and Engineering, Pennsylvania Department of Labor and Industry.

Some Medical and Surgical Problems and Their Solution,

From the Point of View of the Mining Surgeon,
DR. S. P. MENGEL, Lehigh Valley Coal Company, Wilkes-Barre, Pa.

From the Point of View of the Public Service Corporation Surgeon,
DR. N. M. JONES, East Ohio Gas Company, Cleveland, Ohio.

From the Point of View of the Surgeon in the Chemical Industry,
DR. J. W. SCHERESCHEWSKY, United States Public Health Service, Pittsburgh, Pa.

General Discussion.

The Health Hazards of the Cigar Industry with Suggestions for Obviating Them,

DR. T. GRIER MILLER, Occupational Disease Clinic, University of Pennsylvania Hospital, Philadelphia, Pa.

DR. HENRY F. SMYTH, Laboratory of Hygiene, University of Pennsylvania, Philadelphia, Pa.

A Preliminary Report Upon Dust Studies in Various Industries,

DR. HENRY F. SMITH, Laboratory of Hygiene, University of Pennsylvania, Philadelphia, Pa.

DR. T. GRIER MILLER, Occupational Disease Clinic, University of Pennsylvania Hospital, Philadelphia, Pa.

Afternoon Session.

Reconstruction and Rehabilitation of the Disabled Soldier,

MAJOR HARRY E. MOCK, Medical Reserve Corps, U. S. Army.

Discussion.

MAJOR R. TAIT McKENZIE, British Medical Corps.

JACOB LIGHTNER, Director, Bureau of Employment, Pennsylvania Department of Labor and Industry.

The Fight Against Industrial Diseases—The Opportunities and Duties of the Industrial Physician,

DR. ALICE HAMILTON, United States Bureau of Labor Statistics, Washington, D. C.

The Treatment of Infections and Infected Wounds by Dichloramine-T,

DR. ROBERT PERRY CUMMINS, Chief Surgeon, Midvale Steel Company.

Lantern Demonstration of the Treatment of Infections and Infected Wounds by Dichloramine-T,

LIEUTENANT WALTER E. LEE, Medical Reserve Corps, U. S. Army.

The War Crisis and the Industrial Surgeon,

DR. WILLIAM A. EVANS, Ex-President, American Public Health Association, Chicago, Ill.

The hazards of various occupations were discussed, as much in their relation to the health of the worker as in relation to accidents, and a great many new and valuable ideas were brought out.

It is not possible to summarize here all the addresses delivered, but each one presented so many valuable thonghts that they may all be read in their entirety with great profit.

The full report of this Conference is published in the March, 1918, number of The Pennsylvania Medical Journal. Reprints of these proceedings have been procured by the Department of Labor and Industry for free distribution among those interested in any of the subjects discussed. Until this supply is exhausted, copies of these reprints may be obtained, on requeest, from Dr. Francis D. Patterson, Chief, Division of Industrial Hygiene and Engineering, Third and North streets, Harrisburg, Pa.

Attention may advantageously be given to the papers by Doctors Miller and Smyth. These papers are the direct results of studies made in the Clinic for Diseases of Occupation which is conducted at the Hospital of the University of Pennsylvania in co-operation with the Pennsylvania Department of Labor and Industry. These papers show only the beginning of what will be accomplished for the workers of this state, by pointing out the causes of their ill health and removing these causes. For the manufacturer of the State, the service is equally as great, as by the assistance of the numerous trained workers connected with this clinic, the health hazards in the various industries are studied and recommendations offered for their elimination.

Just as at the Fourth Conference of Industrial Physicians and Surgeons the epoch-making treatment of infected wounds by the Carrel-Dakin method was described and discussed, so at this Conference the remarkable results obtained by the use of Dichloramine-T, together with its tremendous saving in dressings and in the time of applying the dressings were set forth. The motion pictures showing the use of this method, as explained by Lieutenant Lee were especially illuminating.

The problem of the reconstruction and rehabilitation of the disabled soldier as presented by Major Mock and Major McKenzie brought before the Conference one of the most vital problems of the war, and one, the influence of which is going to be felt many years after the war is over. Mr. Lightner presented the proposed plans of the Pennsylvania Department of Labor and Industry, for aiding in the placement in industry of the trained reconstructed soldier.

Major McKenzie paid a splendid tribute to the plan for solving this problem as worked out in the Surgeon-General's office in Washington, and with the co-operation of the industries of the country there is every reason to expect that our disabled soldiers, sailors, and marines will be given opportunity to find a place in industrial life suited to their capabilities.

Invalided Soldiers' Commission, Canada.

FROM THE RATTLE OF THE MACHINE-GUN TO THE CLICK OF THE TELEGRAPH KEY

Canadian soldier receiving instructions in transcribing telegraphed messages as typewritten copy in preparing for a future occupation where his war disability will not be a handicap.

THE BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

LT.-COL. JOHN PRICE JACKSON, Commissioner,
On Leave of Absence—War Service.
LEW R. PALMER, Acting Commissioner.

PENNSYLVANIA'S PART IN THE NATIONAL PLAN FOR REHABILITATING AND PLACING IN INDUSTRY SOLDIERS AND SAILORS DISABLED IN WAR SERVICE

Prepared by S. S. RIDDLE
Pennsylvania Department of Labor and Industry

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ILLUSTRATIONS.

Note:—The illustrations in this Bulletin are reproductions of photographs, showing occupational training work for returned disabled soldiers being conducted in Winnipeg, Canada, by the Invalided Soldiers' Commission of the Canadian Department of Soldiers' Civil Re-establishment. The photographs are reprodnced through courtesy of W. J. Warters, Esq., District Vocational Officer of the Invalided Soldiers' Commission at Winnipeg.

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FOREWORD.

One effect of the war has been to concentrate attention and study on the great problem of rehabilitating disabled men to be economically independent producers in suitable occupations.

There are three steps in the solution of that problem:—physical rehabilitation of the disabled man so far as is possible; educational training for a suitable occupation; proper placement in such occupation.

The Pennsylvania Department of Labor and Industry is concerned principally in the third phase of the problem,—the placing of disabled workers in suitable employment.

Realizing early in the war that proper places in industry should be found for Pennsylvanians disabled in war service, the Pennsylvania Department of Labor and Industry, by circularizing virtually all employers of the State, obtained tentative employment opportunities for approximately 50,000 soldiers and sailors handicapped by various kinds of disability.

A review of the majority of definite places offered is presented in tables and lists included in this Bulletin. It is very improbable that 50,000 disabled soldiers and sailors, unable to re-enter their former occupations, will be returned to Pennsylvania for placement in a new occupation,—after having received proper training,—even after several years of war. Consequently, even though present heavy demands for labor may have tended to increase the number of places offered for disabled workers, the places actually offered by Pennsylvania employers and the suggestions made by them as to tasks for men variously disabled, will aid greatly in solving the placement problem in Pennsylvania.

Complete co-operation of employers and employes will be necessary for successful development of the great rehabilitation project.

This Bulletin is issued by the Pennsylvania Department of Labor and Industry as a step toward obtaining that complete co-operation, by making available to all employers and employes of this Commonwealth, information on the project of placing disabled soldiers and sailors of Pennsylvania at suitable tasks.

In order to make this Bulletin of maximum service to employers and employes, a chapter is devoted to a brief outline of the national plan, for the rehabilitation and placement in industry of disabled soldiers and sailors, as established by Act of Congress and approved by the President June 27, 1918.

Another chapter, on "Placement of Disabled Soldiers and Sailors in Employment," gives a general review of the placement subject, outlining conditions that may be expected and methods that may be employed in locating each disabled soldier and sailor at a specified task.

It is obvious that methods used in adjusting a man disabled in war to a suitable task in industry may just as properly be applied in finding a suitable task for a man injured in industry.

A Lesson for Industrial Safety.

A striking lesson in industrial safety may also be obtained by Pennsylvania employers and employes from Part V, of the Bulletin which deals with the comparative casualties of war and of industry.

As is outlined in that portion of this Bulletin, the total number of casualties in industry may be considered, on a general average as exceeding the total number of war casualties, but the total number of employes in Pennsylvania is about six times as great as the total number of men Pennsylvania will ultimately put in the field of war.

The list of Pennsylvanians wounded on the field of battle very properly creates much apprehension in the homes of soldiers and sailors and much attention from the general public.

But, a casualty list, bearing, on an average, names of 650 workers injured in the industries of Pennsylvania is received every day at the present time at the Pennsylvania Department of Labor and Industry. That daily casualty list of industry has on some days, during the last two and one-half years, reached a total of 1,100. An injury suffered by a worker in Pennsylvania industry is reported to the Department of Labor and Industry only when a worker is killed or disabled for a period exceeding two days.

During the last two and one-half years, ending July 1, 1918, reports of 577,053 injuries to workers have been received in the Department of Labor and Industry. That number includes 7,575 fatalities.

Quoting further from Part V of this Bulletin, it may be said that if Pennsylvania ultimately sends 500,000 men to war and if the total *number* of wounded,—not the percentage of the total engaged,—equals in two and one-half years the number injured in the industries of Pennsylvania during the same period, every man in that army of 500,000 will be injured once and more than 75,000 men in that army will be twice wounded during those two and one-half years.

The army of industrial workers injured in two and one-half years in Pennsylvania is greater in number than the army that either Canada or Pennsylvania is sending against Germany.

Invalided Soldiers' Commission, Canada.

FUTURE SIGN WRITERS

Design and preparation of advertising cards offer occupational possibilities for returned war veterans with natural aptitude or a prior experience in sketching or lettering.

Invalided Soldiers' Commission, Canada.

DISABLED BY WAR BUT CAPABLE OF SELF SUPPORT

Undeveloped natural skill may, in some cases, be discovered among disabled soldiers, who prior to army service never found time nor opportunity to develop their abilities.

Such remarkable comparison cannot fail to impress upon every employer and employe in the Commonwealth of Pennsylvania the vital importance of safety in industry.

Every employer in this Commonwealth should make every effort to guard every machine or dangerous place that may cause injury to an employe. Every employe in this Commonwealth should use every safeguard provided by employers and should guard himself with renewed vigilance against injury, for his own sake, and for the sake of his country at war, which needs at this time the uninterrupted service of every worker.

The Pennsylvania Department of Labor and Industry, since its creation, has been constantly active in efforts to promote industrial safety.

It may be appropriate in this connection to repeat here a statement for accident prevention recently sent to employers and employes throughout the State by the Department of Labor and Industry:—

The burden of conserving the human and economic resources of Pennsylvania against the waste of industrial accidents rests on employers, employes and the Pennsylvania Department of Labor and Industry.

Some of the causes of industrial accidents are:

Carelessness.
Speeding up.
The new man hazard.
Unguarded danger points.
Failure to keep in constant service safeguards provided.
Lack of Americanization.

Carelessness especially must be guarded against. Reckless hardihood by employes is rarely the cause of accident. It is the momentary lapse of carefulness and caution by even experienced employes in dangerous trades that causes accidents and injuries. This hazard is always increased when plants are worked for maximum production.

Speed in industry, a direct result of great demand for production must be conducted under the most rigorous and constant vigilance both by employers and employes.

New employes, unfamiliar with dangerous processes, must be judiciously placed in industry so that their "greenness" in the work may not result in injury to themselves or fellow-workers. The new man hazard is always great during periods of extreme demand for labor, producing an unusual mobility of industrial workers.

Hundreds of thousands of safeguards and safety appliances have already been installed by Pennsylvania employers. However, there still are danger points which records received at Harrisburg indicate are daily causing accidents.

Every safeguard designed to prevent injury should always be kept in place by employes and goggles or other individual devices supplied by employers should never be discarded even temporarily in dangerous work.

Alien workers should be taught English that orders may be understood.

Safety committees should be organized in every shop through co-operation of employers and employes.

It must be remembered that the primary purpose of workmen's compensation is to prevent industrial accidents. While the employe, who is injured at work, or the dependents of an employe killed, obtain to-day in Pennsylvania a money compensation affording protection from want, that compensation cost becomes a part of the cost of production, is included in the ultimate price of commodities, is distributed among all consumers and contributes its part to increasing the cost of living.

The forces and facilities of the Pennsylvania Department of Labor and Industry are always available to employers or employes for solution of problems concerning industrial safety.

Trained inspectors of the Department are in all sections of the State inspecting plants for danger points and investigating accidents to formulate means for preventing a recurrence of such accidents.

The Industrial Board of the Department of Labor and Industry has been and is carefully formulating regulations for the promotion of safety in industry in general.

A constant campaign of safety education is conducted by the Department by means of motion picture films exhibited throughout the State, and through great masses of safety literature.

Accident Prevention Posters are available for all plants.

Safety folders or "Timely Hints" for prevention of injury of various classes of workers are also available to employers and employes.

The Bulletin, the Department's magazine for safety, will be mailed to any employer or employe on request.

May there be a renewed effort of employers and employes and governmental agencies for the conservation of Pennsylvania's human and industrial resources in this time of war.

Acknowledgments.

Acknowledgments of co-operation are hereby made to Dr. C. A. Prosser, Director, H. L. Brunson, T. B. Kidner, J. C. Miller, of the Executive Staff of the Federal Board for Vocational Education; to Lieutenant Colonel Harry E. Mock, of the Department of the Surgeon General of the United States Army; to the Red Cross Institute for Crippled and Disabled Men, of New York, in making it possible for a representative of the Pennsylvania Department of Labor and Industry to accompany a selected group of persons who made an intensive study, throughout Canada, of the methods adopted for the rehabilitation of disabled soldiers and sailors; to Canadian government officials and citizens, and especially to the officials of the Invalided Soldiers' Commission of the Canadian Department of Soldiers' Civil Re-establishment.

LEW R. PALMER,
Acting Commissioner.

WORKMEN'S COMPENSATION AND THE DISABLED SOLDIER.

Employers of Pennsylvania need have little fear that the return of disabled soldiers to the industries of Pennsylvania will have any marked effect on workmen's compensation costs, due to the possibility of such disabled soldiers being more susceptible to industrial accidents than able-bodied workers, or that additional injuries, which may be sustained by such men will increase compensation costs.

In this connection the following statement has been made by Harry A. Mackey, Chairman of the Pennsylvania Workmen's Compensation Board.

Placement of industrially trained but handicapped soldiers and sailors in industry may be influenced in some plants by the tendency of the owners or managers to fear that such men may be more liable to accidents and thus create additional cost for workmen's compensation. While it is generally believed that this is a needless fear which in most cases may be readily overcome, as it has been in England, the fact remains that such tendency exists as has been discovered in Canada, where the local provinces have compensation laws as have the various states in the United States.

Such conditions arising within Pennsylvania may be properly adjusted through the Workmen's Compensation Board of the State Department of Labor and Industry by State-wide educational propaganda to convince employers that it is not an economic danger to employ disabled soldiers and sailors in suitable work. It may be stated that judicious distribution of industrially trained disabled soldiers and sailors in proper tasks in industry will probably have no effect on compensation insurance rates in Pennsylvania.

The Workmen's Compensation Board of Pennsylvania, among its first rulings, required employers carrying their own insurance to file a statement as to whether they would discriminate against applicants for work physically handicapped. A decision by the Workmen's Compensation Board, sustained by Common Pleas, established the precedent that a compensation award is to be based on the injuries sustained by a given accident even though that injury creates total disability coupled with other physical handicap suffered at a prior date.

PART I.

PENNSYLVANIA'S EARLY PREPARATIONS.

Pennsylvania was the first of the States to take definite action in preparing for the rehabilitation and proper placement in industry of its disabled soldiers and sailors returned from war service.

Seven months before the Smith-Sears Vocational Rehabilitation Act was passed by Congress and approved by the President, the first step in a State-wide plan for proper placement in industry of war veterans, handicapped by various types of disability, was outlined before a large group of employers, employes, industrial surgeons, representatives of civic and other associations attending the Fifth Annual Welfare and Efficiency Conference of the Pennsylvania Department of Labor and Industry at the State Capitol at Harrisburg in November 1917.

It was realized, even at that early date, when comparatively few American troops were in Europe, that Pennsylvania, with its large population and great industrial plants, would be required to provide a large proportion of all the fighting men and munitions of war to go from this country and, consequently, that its rehabilitation problems would be correspondingly great.

Questionnaire Developed.

One result of that conference, in addition to impressing the importance of the rehabilitation problem upon the industrial representatives present from all sections of the State, was the development of a questionnaire which, in January 1918, five months before the Federal Rehabilitation Act was passed, was sent to 30,000 industrial plants in the Commonwealth of Pennsylvania.

This questionnaire, in printed folder form, presented on its outside page a letter to employers from the Acting Commissioner of the Department of Labor and Industry pointing out the importance of the rehabilitation problem and the necessity of proper reabsorption of disabled men at suitable tasks in industry.

The main questionnaire, on the inside of the folder, designated thirty-eight different types of disability and requested employers as a patriotic duty to specify, according to their knowledge, how many men handicapped by each type of disability, they could employ and to specify at what tasks they proposed to employ them.

The second questionnaire, on the back page of the folder, requested employers to give detailed information regarding the disabled men in their employ at the time the questionnaire was received. The purpose of this second questionnaire was to ascertain the positions held at that time by disabled men in the State of Pennsylvania as a basis for study of the rehabilitation work.

A reproduction of that questionnaire is herewith given.

MAJOR JOHN PRICE JACKSON
COMMISSIONER
ABSENT ON LEAVE—WAR SERVICE
LEW R. PALMER
ACTING COMMISSIONER

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF LABOR AND INDUSTRY
HARRISBURG

January, 1918.

EMPLOYMENT OF DISABLED SOLDIERS,
SAILORS AND MARINES.

Employers of Pennsylvania.

Gentlemen: One inevitable effect of the war will be the disabling of officers and enlisted men of our armed forces by either wounds or disease.

It is the purpose of our Government to establish a number of hospitals in which the reconstruction of disabled soldiers, sailors and marines will be accomplished so far as is possible and where artificial appliances will be fitted to these cripples.

When these men are physically able to return to the ranks of industry it is absolutely essential that they be given suitable employment.

Experience has shown that many occupations in varied industries are now filled in a thoroughly competent manner by individuals who have had the misfortune to be handicapped as a result of either injury or disease.

In order that the State of Pennsylvania may co-operate and be of maximum service to the Federal Government it is requested that you answer, as a patriotic duty, to the best of your knowledge, all questions on the accompanying questionnaires and mail them to the Bureau of Employment, Department of Labor and Industry, Harrisburg, Pa.

Corporations finding these blanks inadequate for their replies may obtain additional copies of this form from the Department of Labor and Industry at Harrisburg.

Your co-operation in this patriotic measure will be deeply appreciated by

Yours faithfully,

LEW R. PALMER,
Acting Commissioner.

IF YOU ARE NOT AN EMPLOYER OF LABOR, PLEASE PASS THIS FORM TO AN EMPLOYER.

PENNSYLVANIA DEPARTMENT OF LABOR AND INDUSTRY

Bureau of Employment and Division of Hygiene and Engineering

QUESTIONNAIRE ANTICIPATING PLACEMENT IN PENNSYLVANIA INDUSTRIES OF DISABLED SOLDIERS RETURNED FROM WAR SERVICE. PLEASE INDICATE NUMBER OF HANDICAPPED MEN YOU COULD EMPLOY AND FORWARD THIS REPLY TO BUREAU OF EMPLOYMENT, DEPARTMENT OF LABOR AND INDUSTRY, HARRISBURG, PA.

Name of Firm.....

Address .....

Date .....

The Surgeon General's Office of the United States Army is arranging for the reconstruction and rehabilitation of men disabled and impaired in health in war service.

Each disabled soldier will be equipped by the government with every suitable appliance to bring his efficiency to a maximum. He will receive the necessary treatment and training to adapt him for selected employment.

DISABILITY		TYPE OF WORK OR MACHINE OPERATION	Number of such positions	REMARKS
Loss of fingers	One hand			
	Both hands			
Loss of hand at wrist	One hand			
	Both hands			
Loss of arm below elbow	One arm			
	Both arms			
Loss of arm at shoulder	One arm			
	Both arms			
Stiff finger joints	One hand			
	Both hands			
Stiff wrist joint	One arm			
	Both arms			

DISABILITY		TYPE OF WORK OR MACHINE OPERATION	Number of such positions	REMARKS
Stiff elbow joint	One arm			
	Both arms			
Stiff shoulder joint	One arm			
	Both arms			
Partial loss of foot	One foot			
	Both feet			
Loss of foot at ankle	One foot			
	Both feet			
Loss of leg below knee	One leg			
	Both legs			
Loss of leg at knee	One leg			
	Both legs			
Loss of leg at middle of thigh	One leg			
	Both legs			
Loss of leg at hip joint	One leg			
	Both legs			
Stiffness of lower extremities	One leg			
	Both legs			
Blindness	One eye			
	Both eyes			
Deafness	One ear			
	Both ears			

Loss of speech			
Repulsive facial disfigurements			
Hernia			
General health impairment which would prevent heavy manual labor			

PENNSYLVANIA DEPARTMENT OF LABOR AND INDUSTRY
Bureau of Employment and Division of Hygiene and Engineering

The purpose of this questionnaire is to ascertain the positions now held by disabled men in the State of Pennsylvania. This study will aid the United States Government in its plans for training the soldiers disabled in war service. Kindly fill in answers for every diseased or crippled man working for you. Additional copies of this form will be furnished on request.

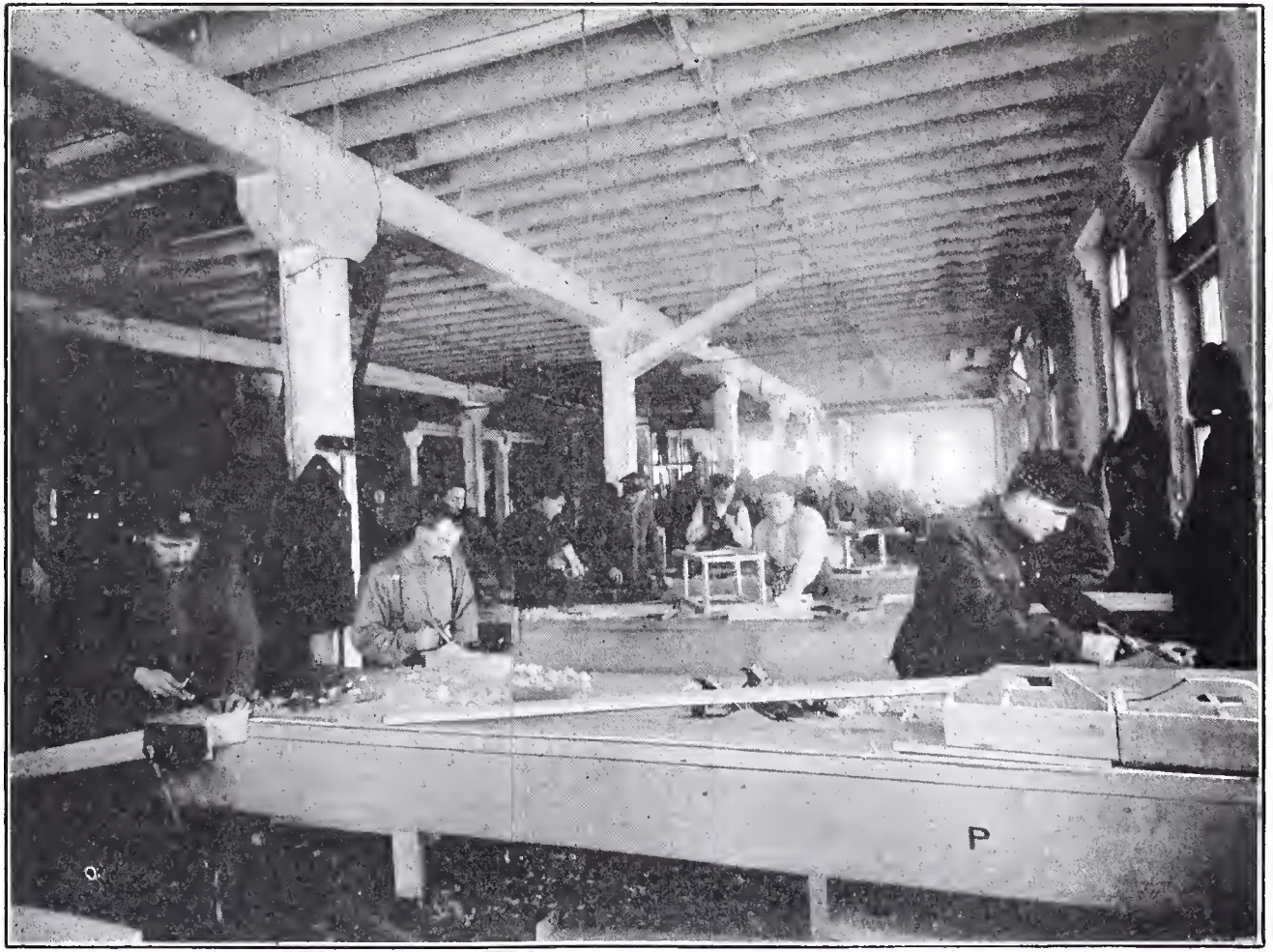
PLEASE FORWARD THIS REPLY TO
BUREAU OF EMPLOYMENT, DEPARTMENT OF LABOR AND INDUSTRY, HARRISBURG, PA.

Name of Firm.....

Address .....

Date .....

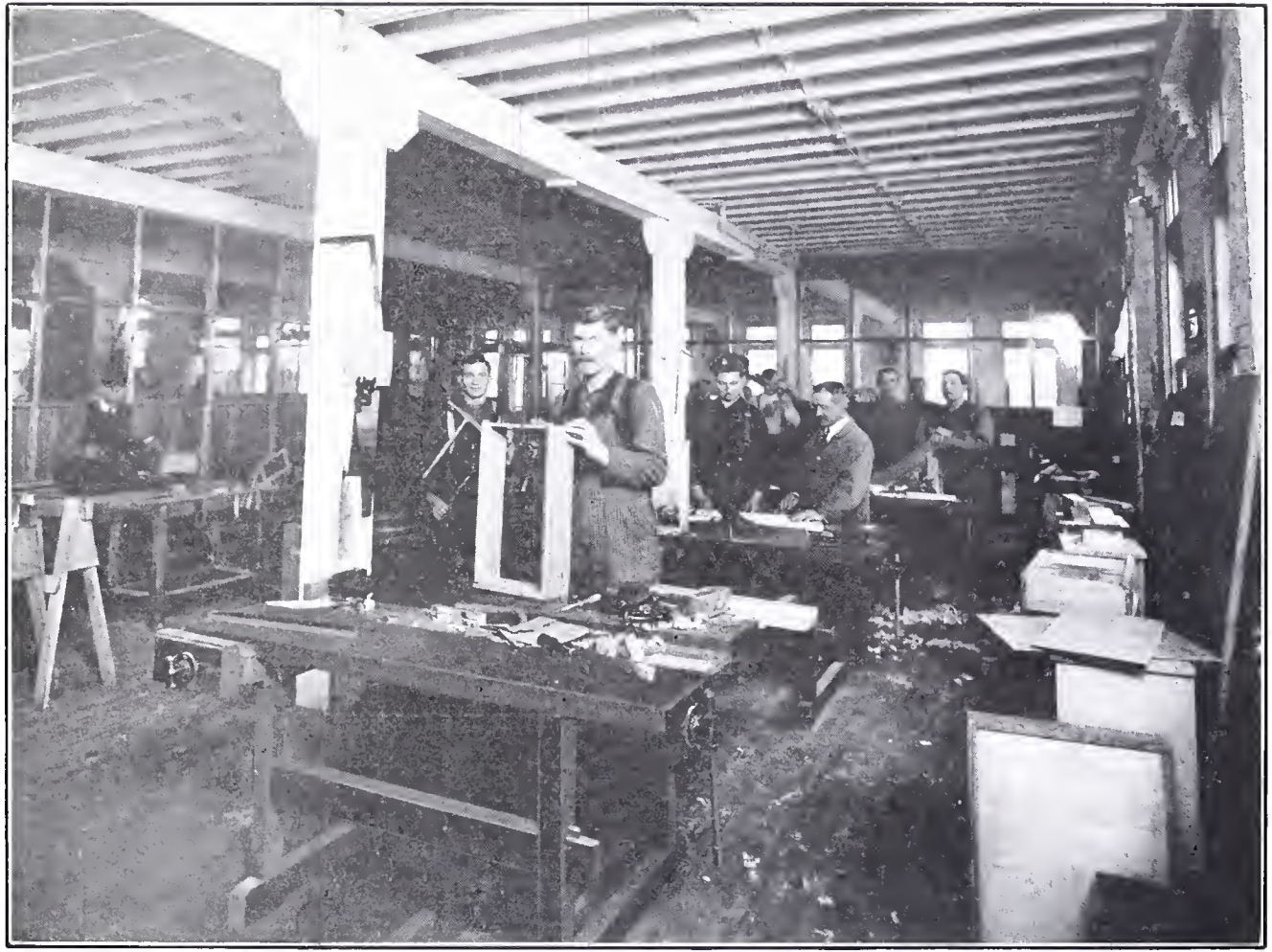
Nature of Disability.	Sex.	Age when Disabled.	Present Age.	Previous Occupation.	Present Occupation.	Degree of Success.	Present Weekly Wage.	Education Previous to Injury.	Education or Special Training for Present Occupation.	What Artificial Appliance is Used.	Remarks. (Nature of work and any interesting features in case.)



Invalided Soldiers' Commission, Canada.

INDUSTRY ALWAYS NEEDS WOOD-WORKERS

Returned soldiers whose physical capabilities enable them to become proficient in carpentry, or other branches of wood-working, need not fear lack of employment.



Invalided Soldiers' Commission, Canada.

CABINET MAKING SUITS SOME DISABILITIES

Extreme physical exertion is not required and the indoor task protects the worker from exposure to the weather.

Several thousand industrial plants returned these questionnaires offering to employ at specified tasks approximately 50,000 men afflicted by various disabilities.

It may be observed that the distribution of this questionnaire further awakened employers throughout the entire State to the importance of this work and, not only provided a vast bulk of material of value for study in the final solution of the problem of placement of disabled men, but also gave several thousand points of contact in Pennsylvania where intensive studies of occupations, specific tasks and general labor conditions may be made for the final proper placement of war disabled Pennsylvanians in suitable and remunerative employment at or near their home communities.

State Committee Appointed.

A State Committee, comprising Adjutant General Frank D. Beary as Chairman, Dr. B. Frank Royer, Acting Commissioner of Health, Lew R. Palmer, Acting Commissioner of Labor and Industry and Dr. J. George Becht, Executive Secretary of the State Board of Education, was appointed by Governor Brumbaugh, March 19, 1918, to study, in all its phases, the entire problem of rehabilitating crippled soldiers and sailors in Pennsylvania.

That committee made a preliminary study of the problem and kept in close touch with the evolution of the National plans for rehabilitating the war disabled.

All of this activity by the Commonwealth of Pennsylvania in preparing for its disabled in war, was conducted before the National Vocational Rehabilitation Act of Congress, approved June 27, 1918, centralized the work under Federal agencies. As a result it may be safely said that the Government of Pennsylvania has awakened the public of the Commonwealth, including employers, employes and various civic associations, to a realization of the rehabilitation problem to a degree that should prevent the shunting of disabled men into the mere by-product occupations of industry.

Another benefit of this early activity by Pennsylvania was that it rendered the Commonwealth prepared, in a measure, to solve its own problem of rehabilitating its crippled soldiers and sailors in the event that the work had by any reason become decentralized and had devolved upon the several states. In other words Pennsylvania was prepared.

This preparedness of Pennsylvania took definite form principally through the four administrative departments represented on the State Committee.

1. Through the State Department of the Adjutant General, the head of the military of the Commonwealth and where records of Pennsylvanians in the service of the Nation are collected and compiled.

2. Through the State Department of Health with its hospitals, tuberculosis sanatoria, dispensaries, staff and associate physicians and surgeons for physical reconstruction.

3. Through the State Board of Education, with its educational institutions equipped with dormitories, infirmaries, gymnasiums, laboratories and vocational training equipment and its well developed State divisions of vocational training along industrial and agricultural lines for educational reconstruction.

4. Through the State Department of Labor and Industry with its:

Bureau of Employment, containing data regarding industrial opportunities and organization for placement of disabled war veterans in industry;

Division of Industrial Hygiene and Engineering, including industrial physicians and engineers, for analyses of tasks and determination of physical capabilities of disabled men proposed to perform such tasks;

Workmen's Compensation Board through which could be adjusted any tendency toward discrimination against disabled men as employes through fear of additional compensation costs.

It is altogether probable that the facilities of the Commonwealth of Pennsylvania will be utilized by the Federal authorities in the rehabilitation of disabled soldiers and sailors and in their replacement in industry.

PART II.

THE NATIONAL REHABILITATION PLAN AS ESTABLISHED BY ACT OF CONGRESS.

The Smith-Sears Vocational Rehabilitation Act, Senate Bill No. 4557, Second Session, Sixty-fifth Congress, approved by the President June 27, 1918, provides for vocational rehabilitation and return to civilian employment of disabled persons discharged from the military or naval forces of the United States.

That Act centralizes the vocational rehabilitation of disabled soldiers and sailors under the direction of the Federal Board for Vocational Education.

Section 2, of that Act prescribes the pay that the injured man will receive while he is pursuing a course in occupational training. These payments, fixed by law, will be made from the Bureau of War Risk Insurance of the United States Treasury Department.

Section 4, of the Act gives power to the Federal Board for Vocational Education to provide lodging, subsistence, travel expenses and such other expenses as may be necessary to make the full benefits of the rehabilitational vocational training available to every returned disabled soldier or sailor at absolutely no financial hardship or cost on the man. That Section also authorizes the Federal Board for Vocational Education to utilize the facilities of the Federal Department of Labor in so far as may be practicable in the placement of rehabilitated persons in suitable or gainful occupations following their completion of training courses.

Section 6, of that Act provides that all medical and surgical work or other treatment necessary to give functional and mental restoration to disabled persons, prior to their discharge from the army or navy, shall be under the control of the War Department and Navy Department. Thus all functional restoration of the soldier or sailor, prior to his discharge, is centralized in the medical departments of the army and navy. The Federal Board for Vocational Education does not begin its work of training the disabled soldier or sailor for a new occupation until his discharge from the army or navy, excepting that the Board may act in an advisory capacity regarding therapeutic treatment for a disabled man, which may be of possible value later in his occupational training.

Section 7, of the Act authorizes the Federal Board for Vocational Education to receive gifts and donations from public or private sources provided they are offered unconditionally to be paid into the treasury of the United States and to be used under the direction of the Federal Board.

The Act places full responsibility on the Federal Board for Vocational Education for the performance of all the activities of rehabilitating disabled soldiers and sailors. Section 5, however, permits the Federal Board to co-operate with such public or private agencies as it may deem advisable in performing the duties imposed upon it by the Act.

It is through that provision of the Federal Act that co-operation between the Federal Board for Vocational Education and the Pennsylvania Department of Labor and Industry, as well as other Departments of Pennsylvania and other States, may be effected for local aid in solution of the varied questions that will arise in a comprehensive and complete rehabilitation program.

PART III.

RESULTS OF PRELIMINARY WORK IN PENNSYLVANIA AS COMPILED IN THE BUREAU OF EMPLOYMENT OF THE DEPARTMENT OF LABOR AND INDUSTRY.

The questionnaires on the possibilities of employment for disabled men in industry, sent to employers in all sections of Pennsylvania, from the Bureau of Employment of the Department of Labor and Industry, brought almost instant response from employers. Although these questionnaires, when completely answered, required considerable time and thought on the part of employers,—who at that time were absorbed in possibly the most active industrial era that Pennsylvania has ever known,—several thousand replies were received during the period from January 1, to July 1, 1918.

Many employers made surveys of their plants to determine, to the best of their ability, at what tasks disabled men could be satisfactorily placed in employment. The tasks thus specified by employers, for men handicapped by varied disabilities, in many instances opened new lines of thought for the employment of such men. Many other replies were indefinite, merely stating that employment would be given disabled soldiers and sailors if it were pointed out in what tasks disabled men could be suitably employed in the various plants.

From the total number of replies to Questionnaire 1, designating the number of handicapped men that could be employed at specified tasks, the returns from 900 plants in 60 counties of the State were selected. These 900 plants proposed to employ 49,417 disabled workers.

Those returns indicate that, on a general average, each employer agreed to place approximately 55 men,—an average which would further seem to indicate that the contemporary shortage of labor tended to increase some of the estimates on the questionnaires. However, an examination of Table II in this chapter will show that in most cases the numbers of disabled employes compared with the numbers of plants offering places for such employes in the various counties are not greatly out of proper proportion. In this connection it must be also considered that among the 30,000 industrial plants in the Commonwealth of Pennsylvania there are between 650 and 700 establishments each employing more than 500 workers.

The complete list of employment openings in Pennsylvania, tabulated from the questionnaires in the Bureau of Employment as to number of openings for handicaps under each of the various classes of disability is as follows:

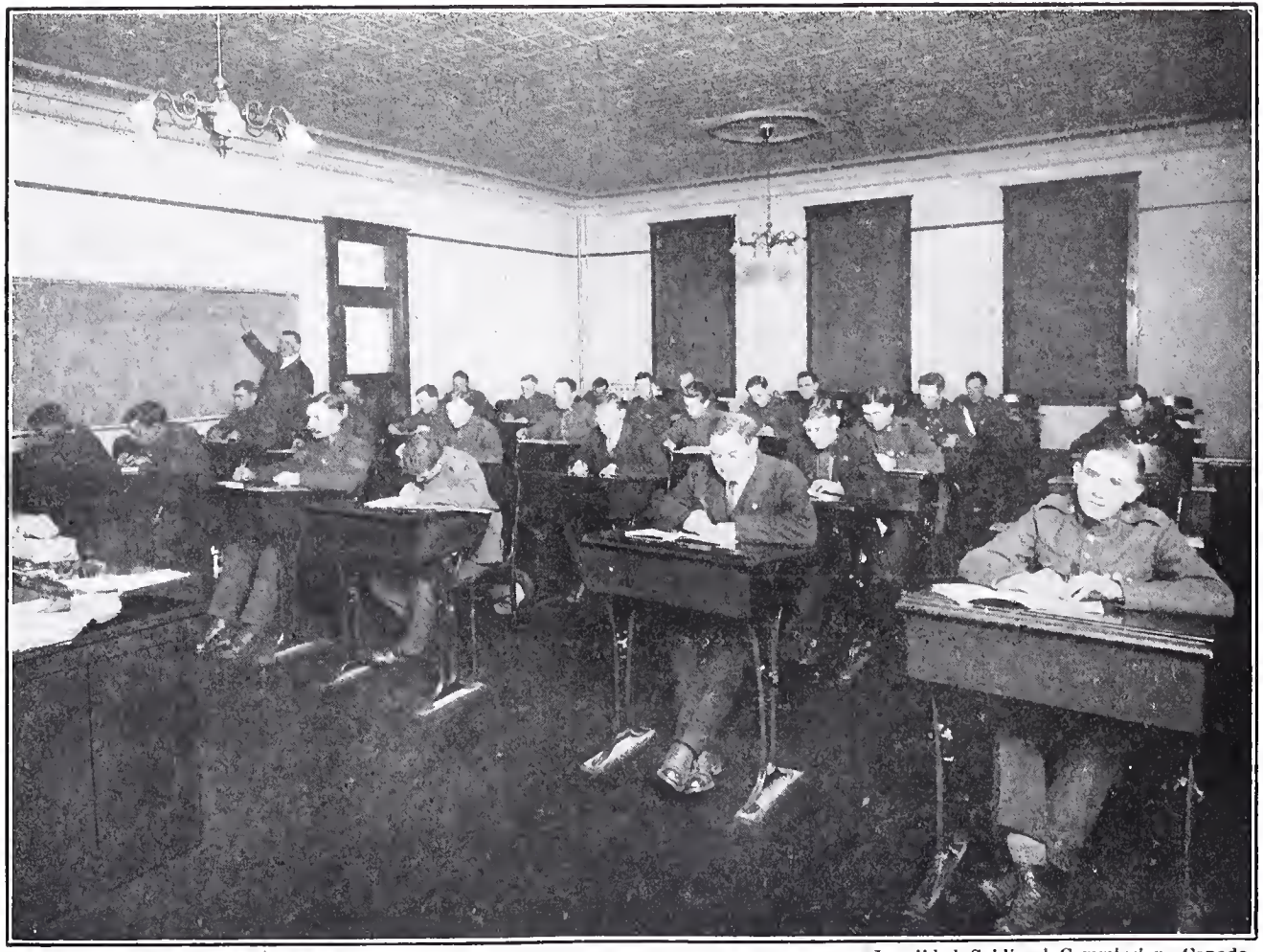
TABLE I.
OPENINGS CLASSIFIED BY DISABILITY.

Disability.	Number of Openings.	
Loss of fingers,	One hand,	4,324
	Both hands,	577
Loss of hand at wrist,	One hand,	545
	Both hands,	4
Loss of arm below elbow,	One arm,	403
	Both arms,	1
Loss of arm at shoulder,	One arm,	373
	Both arms,	1
Stiff finger joints,	One hand,	2,421
	Both hands,	1,889
Stiff wrist joint,	One arm,	1,381
	Both arms,	489
Stiff elbow joint,	One arm,	853
	Both arms,	51
Stiff shoulder joint,	One arm,	615
	Both arms,	58
Partial loss of foot,	One foot,	2,135
	Both feet,	473
Loss of foot at ankle,	One foot,	1,474
	Both feet,	293
Loss of leg below knee,	One leg,	1,292
	Both legs,	236
Loss of leg at knee,	One leg,	986
	Both legs,	125
Loss of leg at middle of thigh,	One leg,	572
	Both legs,	89
Loss of leg at hip joint,	One leg,	747
	Both legs,	70
Stiffness of lower extremities,	One leg,	793
	Both legs,	149
Blindness,	One eye,	5,618
	Both eyes,	2
Deafness,	One ear,	5,936
	Both ears,	612
Loss of speech,		2,864
Repulsive facial disfigurements,		6,797
Hernia,		1,773
General health impairment preventing heavy manual labor,		957
Miscellaneous,		1,439
Total,		49,417

Wide Variety of Opportunities.

The places of employment offered such disabled workers ranged from steel mills to dairies, from silk mills to railroads, from cigar factories to paper mills and from lumber camps to department stores.

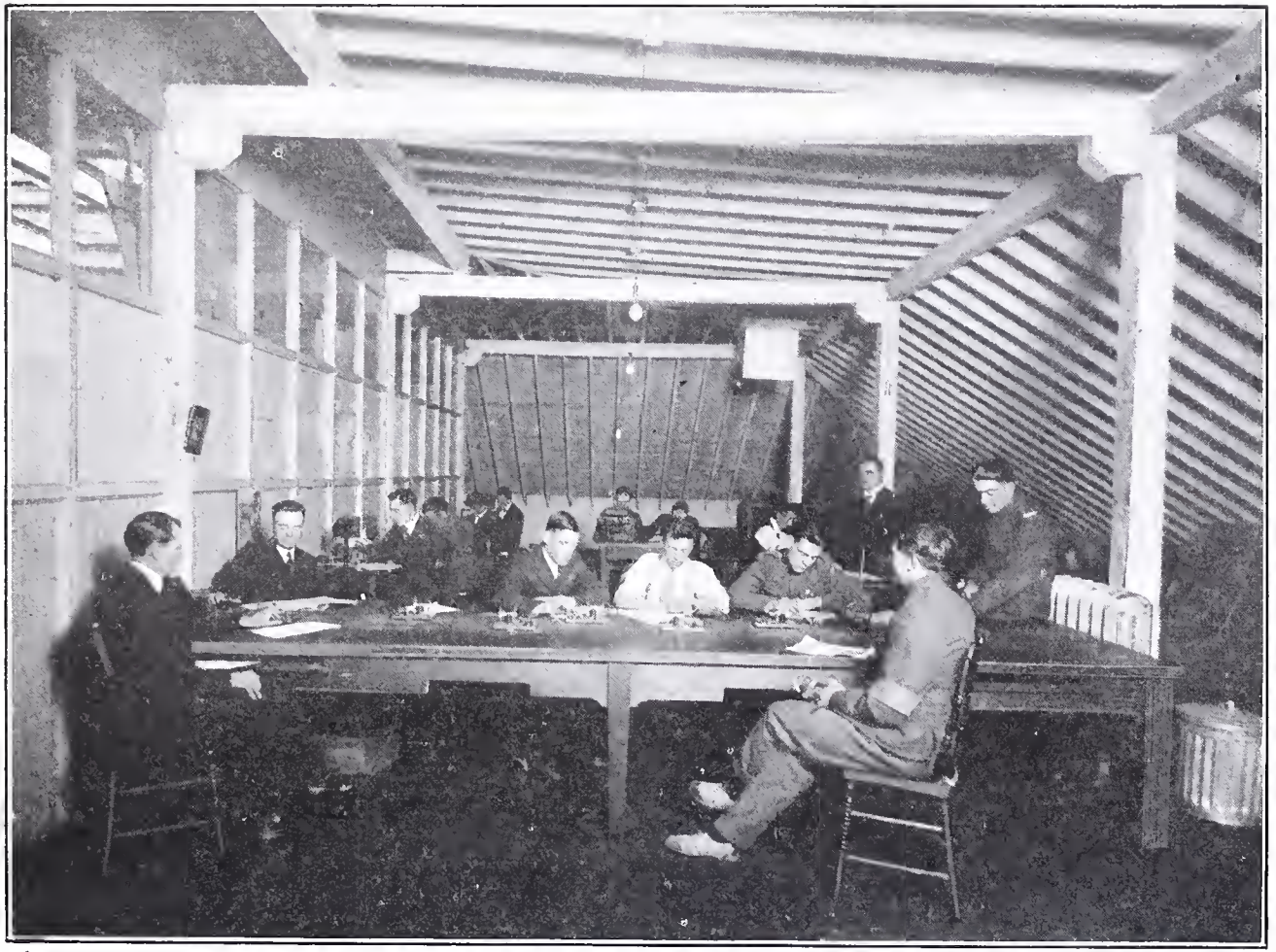
Each reply received from an employer, indicating employment opportunities for crippled workers, has been classified in the Bureau of Employment, by industry, by locality, by task and by disability of workers for whom the employment was offered. It is obvious that each reply indicates an industrial plant for possible placement of disabled soldiers and sailors and in these plants surveys may be made



Invalided Soldiers' Commission, Canada.

ARITHMETIC IS ESSENTIAL IN MOST TRADES

Theoretical instruction in the class room is a necessary part of training for a skilled task.



Invalided Soldiers' Commission, Canada.

MASTERING THE TELEGRAPH KEY

A good elementary education, a quick mind and a flexible wrist overcome the average physical handicap of a veteran, desiring to become a telegraph operator.

for analyses of tasks and to determine the physical capabilities necessary to perform such tasks. The National authorities, through Act of Congress, will equip each disabled soldier and sailor with every suitable appliance to bring his physical efficiency to a maximum and will give him suitable treatment and training to fit him for tasks in industry he can most advantageously perform. From the classified employment lists, compiled in the Department of Labor and Industry, each Pennsylvania soldier and sailor disabled in war service will probably be able to obtain in his home State, a task for which he is best suited physically, a task that will give him greatest financial return according to his capabilities and probably in the city or town where he most desires to reside.

The total of 49,417 employment opportunities included 47,321 in industrial work, 908 in clerical and commercial work, 16 in agriculture and 1,172 under miscellaneous classification.

A compilation of this assembled data showing classification of openings by counties, numbers of plants, kinds of firms and numbers of openings in each class of employment is given in the following table:

TABLE II.

CLASSIFICATION OF OPENINGS BY COUNTIES, NUMBERS OF PLANTS, KINDS OF FIRMS AND NUMBER OF OPENINGS IN EACH CLASS OF EMPLOYMENT.

County.	Number firms.	Kinds of Firms.	Number of Openings Under the Different Classifications.				
			Agricultural.	Clerical and commercial.	Industrial.	Miscellaneous.	Total.
Adams,	3	Printing, textiles and tile mfg.,			13		13
Allegheny,	102	Automobile, chemical, construction, electric, iron and steel, glass, lumber, mining and miscellaneous mfg.		293	4,591	23	4,907
Armstrong,	4	Mining, steel and quarries,			97		97
Beaver,	16	Brick, chemical, glass, iron and steel, printing, oil and miscellaneous mfg.		44	653	1	698
Bedford,	4	Mines, coke and brick,			435		435
Berks,	33	Automobiles, brass, iron and steel, R. R., textiles and miscellaneous mfg.		2	992	493	1,487
Blair,	12	Agricultural, construction, iron and steel, mines and quarries,	3		714		717
Bradford,	1	Hospital,				4	4
Bucks,	8	Cigar, flour, iron and miscellaneous mfg.,			178	5	183
Butler,	7	Brick, oil and quarries,			527	6	533
Cambria,	24	Auto, brick, lumber, mines and quarries, and miscellaneous mfg.,		11	408	27	446
Cameron,	2	Munitions and coal,			36		36
Carbon,	4	Iron, sand and textiles,			61		61
Centre,	2	Brick, shoe mfg.,			65		65
Chester,	9	Brick, electrical, steel and miscellaneous mfg.,	1		126	18	145
Clarion,	2	Powder and quarries,			48		48
Clearfield,	6	Brick, glass and mines,			160	7	167
Clinton,	5	Brick, lumber, machine and textiles,		31	1,115		1,146
Columbia,	8	Brick, lumber and textiles,			490	9	499
Crawford,	6	Cutlery, furniture and steel,			828	5	833
Cumberland,	3	Flour mills, textiles and schools,		8	11		19
Dauphin,	15	Brick, construction, lumber, iron and steel, textiles and miscellaneous mfg.		14	318	28	360

Delaware,	13	Chemical, electric, munitions, steel, textiles and miscellaneous mfg.		16	301	30	347
Elk,	6	Electric, mining, miscellaneous mfg.,		3	2,028	3	2,034
Erie,	28	Brick, brass and bronze, electric, iron and steel, lumber and miscellaneous mfg.		40	459	69	568
Fayette,	16	Brick, coke, glass, mine, iron and steel miscellaneous mfg.,			175		175
Franklin,	6	Automobile, machine, textile and miscellaneous mfg.,		2	394	10	406
Huntingdon,	3	Refractions and miscellaneous mfg.,			86		86
Indiana,	4	Coal and coke, machine, mining, transportation,			127		127
Jefferson,	7	Brick, machine and miscellaneous mfg.,			138		138
Lackawanna,	16	Mining, railroad and miscellaneous mfg.,			2,882		2,882
Lancaster,	25	Auto, chemical, steel, textiles and miscellaneous mfg.,		7	954	37	998
Lawrence,	14	Coal, lumber, steel and quarries,		11	649		660
Lebanon,	13	Iron and steel, machine and miscellaneous mfg.,			124	29	153
Lehigh,	18	Boiler, cement, machinery, electric and miscellaneous mfg.,		85	715	10	810
Luzerne,	25	Chemical, iron and steel, electric and miscellaneous mfg.,		120	1,691		1,811
Lycoming,	14	Leather, lime, machine and miscellaneous mfg.,		23	348	5	376
McKean,	18	Chemical, planing mill, iron and steel and miscellaneous mfg.,			348	4	352
Mercer,	9	Brick, lumber and machinery,			230	3	233
Mifflin,	2	Textiles,			138		138
Monroe,	3	Glass and textiles,			47		47
Montgomery,	27	Brick, construction, printing, glass and miscellaneous mfg.,		10	1,066	8	1,084
Northampton,	21	Cement, construction, engineering, textiles and miscellaneous mfg.,			1,692	34	1,726
Northumberland,	9	Beverages, brick, iron and steel, and schools,			243		243
Philadelphia,	187	Brick, chemicals, electric, iron and steel, pianos and various miscellaneous mfg.		54	3,131	86	3,271
Potter,	5	Glass, printing, and miscellaneous mfg.,			129	5	134
Schuylkill,	20	Brick, shoe,		58	1,370	5	1,433
Snyder,	2	Printing, shoe,			37	8	45
Somerset,	7	Coal and brick,			506		506
Sullivan,	1	Box packing,			105		105
Susquehanna,	3	Chairs, mines,		24	185	12	221
Tioga,	1	Milk condensing,				2	2
Union,	1	Box packing,				1	1
Venango,	12	Gas, lumber, mines, miscellaneous mfg.,			217	27	244
Warren,	11	Cutlery, iron and steel, marble, mirrors,	12		111	12	135
Washington,	14	Bottle, chemical, mines, printing, miscellaneous,		20	9,633	8	9,661
Wayne,	5	Glass, shoes, textiles,			1,212	10	1,222
Westmoreland,	21	Brick, chemical, mines and miscellaneous mfg.,		30	3,356	62	3,448
Wyoming,	1	Machinery,			9		9
York,	36	Cigars, chemical, iron and steel, quarries and machinery,		2	619	66	687
	900	Grand totals,	16	908	47,321	1,172	49,417

Classification of the tasks which, according to the judgment of employers, could probably be performed by men variously handicapped, and showing, under each specified physical defect, the numbers of such openings, is given in the following compilation:

LOSS OF FINGERS ON ONE HAND.

Nature of Work.	Positions Offered.
Automobile repairer,	4
Baker,	12
Blacksmith,	3
Boiler maker,	10
Bookkeeper—accountant,	10
Brick maker,	1
Butcher,	2
Chauffeur,	18
Chipper and caulker,	18
Clerk—general office,	19
Clerk—shipping,	8
Clerk—stock,	3
Collector,	16
Coppersmith,	2
Core maker,	2
Crane runner,	67
Dairyman and stock raiser,	8
Driver—teamster,	40
Dyer—cleaner,	7
Electrician,	28
Elevator operator,	2
Engineer—steam,	22
Executive—secretarial,	7
Factory workers:	
Box,	6
Carpet,	25
Chocolate,	2
Cutlery,	1
Fabric,	3
Furniture,	2
Paper,	11
Silk,	3
Shoe,	2
Farmhand,	1
Fireman—stationary engine,	28
Fireman—locomotive,	6
Foreman,	7
Forgeman,	25
Glass worker,	57
Grinder,	17
Handyman—hatchet and saw,	2
Hospital—orderly,	1
Hostler,	1
Iron worker—structural,	3
Janitor,	1
Knitters,	51
Laborer,	392
Laundryman,	16
Leather worker—tanner, etc.,	4
Lineman,	3
Machinist—boring mill,	29
Machinist—drill press,	1,351
Machinist—helper,	23
Machinist—lathe hand,	50
Machinist—milling machine,	1
Machinist—tool maker,	3
Miller,	3
Miner,	1,229
Moulder,	52
Oiler,	7
Oil refinery worker,	19
Oxide collecting machine worker,	4
Packer—bundler and wrapper,	3
Paint maker,	5

Nature of Work.	Positions Offered.
Paper-hanger and scraper,	11
Planer and saw mill worker,	13
Plumber—steam and pipe fitter,	7
Policeman,	1
Porter,	4
Printer—die stamper,	2
Printer—pressman and feeder,	31
Printer—compositor,	2
Quarryman,	6
Reed and willow worker,	1
Salesman and solicitor,	3
Sheet metal worker,	14
Shipwright and joiner,	70
Steel rolling mill worker,	79
Storage and warehouse worker,	6
Tailor—garment worker,	3
Teacher—tutor,	1
Telephone operator.	2
Textiles—carder,	4
Textiles—sorter,	5
Textiles—spinner,	2
Textiles—weaver,	37
Weighmaster,	2
Welder,	4
Woodworking machine,	37
Total,	4,324

LOSS OF FINGERS ON BOTH HANDS.

Boiler maker,	8
Butcher,	2
Factory workers:	
Carpet,	25
Cutlery,	4
Fireman—stationary engine,	7
Foundry worker,	14
Glass workers,	28
Grinder,	56
Laborer,	88
Machinist—drill press,	2
Machinist—lathe hand,	1
Machinist—tool maker,	6
Miner,	260
Moulder—steel,	10
Paper makers,	5
Pattern maker,	1
Planer and saw mill worker,	2
Salesman and solicitor,	1
Sheet metal worker,	36
Teacher—tutor,	1
Telephone operator,	14
Textiles—weaver,	2
Watchman,	4
Total,	577

LOSS OF ONE HAND AT WRIST.

Baker,	1
Brick makers,	6
Clerk—general office,	22
Clerk—stock,	3
Collector.	15
Confectioner,	1
Crane runner.	20
Dairyman and stock raiser,	2
Electric press work,	3
Elevator operator,	1

Nature of Work.	Positions Offered.
Factory workers:	
Button,	2
Carpet,	1
Cotton fabric,	3
Furniture,	1
Silk,	7
Stove,	2
Paper,	23
Fireman—stationary engine,	4
Flagman—yardman,	5
Foreman,	17
Garage helper,	1
Glass worker,	2
Hospital orderly,	1
Inspector—shop,	2
Iron worker—structural,	2
Janitor,	1
Knitters,	4
Laborer,	117
Laundryman,	2
Machinist—drill press,	7
Machinist—general,	58
Machinist—helper,	21
Machinist—lathe hand,	22
Machinist—milling machine,	4
Machinist—shaper and planer,	4
Miller,	3
Miner,	68
Oilers,	3
Paint maker,	14
Picking alloy,	3
Planer and saw mill worker,	2
Plasterer,	2
Policeman,	1
Salesman and solicitor,	17
Sheet metal worker	14
Steel rolling mill shearman,	1
Teacher—tutor,	2
Watchman,	34
Woodworker,	4
Total,	545

LOSS OF BOTH HANDS AT WRIST.

Laborer,	3
Messenger—errand boy,	1
Total,	4

LOSS OF ONE ARM BELOW THE ELBOW.

Attendant (insane hospital),	1
Bookkeeper,	1
Brick makers,	16
Butcher,	1
Chemical workers,	6
Clerical—office,	24
Clerical—shipping,	15
Collectors,	30
Crane runners,	20
Drill press,	20
Electric press,	2
Factory workers:	
Chair,	1
Candy,	5
Cutlery,	2
Glass,	2
Fabric,	3
Nut and bolt,	2
Rug,	1
Silk,	1

Nature of Work.	Positions Offered.
Fireman,	1
Foundry work,	1
Grinder,	6
Inspector,	1
Iron worker—shear lever,	1
Knitter,	2
Laborer,	98
Light machine worker,	63
Machinist,	5
Miller,	2
Miner,	33
Paint maker,	2
Printer,	1
Refining works—gauger and pumper,	1
Salesman,	1
Stove mounter,	2
Teacher,	1
Wagon works—stock room,	1
Watchman,	24
Woodworkers—filling room,	3
Woodworker—machinist,	1
Total,	403

LOSS OF BOTH ARMS BELOW ELBOW.

Manage linkers in making up yarn,	1
Total,	1

LOSS OF ONE ARM AT SHOULDER.

Boiler maker,	1
Brick maker,	9
Butcher,	1
Chemist,	35
Clerk—general office,	17
Clerk—shipping,	1
Clerk—stock,	3
Collector,	27
Confectioner,	1
Crane runner,	10
Electric press worker,	3
Factory workers:	
Chair,	1
Fabric,	3
Silk,	1
Yarn,	6
Oil refinery,	1
Forgeman,	4
Hospital—orderly,	2
Inspector—shop,	28
Knitter,	12
Laborer,	18
Laundryman,	1
Machinist—drill press,	16
Machinist—general,	45
Machinist—helper,	13
Machinist—lathe hand,	17
Machinist,—milling machine,	10
Machinist—tool maker,	1
Messenger—errand boy,	11
Miller,	3
Miner,	20
Paint maker,	2
Policeman,	1
Printer,	1
Salesman and solicitor,	2
Stone cutter,	1
Teacher—tutor,	2
Watchman,	46
Total,	373

LOSS OF BOTH ARMS AT SHOULDER.

Nature of Work.	Positions Offered.
Teacher,	1
Total,	1

STIFF FINGER JOINTS ON ONE HAND.

Automobile repairer,	3
Baker,	10
Boiler maker,	55
Brick maker,	58
Butcher,	1
Candy maker,	2
Chipper and caulker,	21
Clerk—general office,	31
Clerk—shipping,	1
Clerk—stock,	1
Collector,	15
Confectioner,	1
Coppersmith,	3
Core maker,	2
Crane runner,	10
Dairyman and stock raiser,	3
Driver—teamster,	8
Dyer—cleaner,	9
Electrician,	13
Engineer—steam,	3
Factory workers:	
Box,	5
Chair,	2
Cutlery,	4
Glass,	7
Nails and spikes,	1
Nails and bolts,	5
Paper,	20
Pile fabrics,	3
Shirt,	1
Silk,	3
Springs,	1
Fireman—stationary engine,	12
Firemen—locomotive,	1
Foundry workers,	87
Glass worker,	10
Grinder,	84
Harness maker—sadler,	1
Hospital—orderly,	1
Inspector—shop,	2
Iron worker—structural,	102
Janitor,	6
Knitter,	17
Laborer,	816
Laundryman,	2
Lumberman—logger,	5
Machinist—apprentice,	18
Machinist—drill press,	99
Machinist—general,	237
Machinist—helper,	55
Machinist—lathe hand,	6
Machinist—milling machine,	3
Machinist—shaper and planer,	6
Machinist—tool maker,	3
Miller,	2
Miner,	248
Moulder—iron,	15
Paint maker,	5
Paperhanger and scraper,	17
Planer and saw mill worker,	6
Plumber—steam and pipe fitter,	3
Policeman,	2
Punch pressman,	5
Porter,	1
Printer—pressman and feeder,	7
Printer—compositor,	1
Publicity—advertiser,	1

Invalided Soldiers' Commission, Canada.

IN SHARP CONTRAST WITH WAR'S HORRORS

Floriculture offers light work of unusually soothing character to the soldier re-entering civil life from the turmoil of the battle front.

Invalided Soldiers' Commission, Canada.

POULTRY RAISING REQUIRES CONSTANT ATTENTION.

But it also provides a fresh air task without demanding the physical strength and endurance necessary in general agricultural pursuits.

Nature of Work.	Positions Offered.
Reed and willow worker,	5
Riveter,	3
Salesman and solicitor,	4
Sheet metal worker,	3
Shipwright and joiner,	126
Shoe worker,	5
Steel rolling mill shearman,	2
Tailor—garment maker,	3
Teacher—tutor,	4
Textiles—weaver,	9
Watchman,	32
Wood-worker,	57
Total,	2,421

STIFF FINGER JOINTS OF BOTH HANDS.

Crane runner,	10
Elevator operator,	3
Factory workers:	
Cutlery,	1
Fireman—stationary engine,	7
Foundry worker,	18
Handyman—hatchet and saw,	2
Laborer,	208
Machinist—apprentice,	15
Miner,	1,582
Planer and saw mill worker,	1
Policeman,	1
Riveter,	7
Salesman and solicitor,	3
Shipwright and joiner,	20
Teacher—tutor,	1
Textiles—spinner,	10
Total,	1,889

STIFF WRIST JOINT OF ONE ARM.

Attendant—insane hospital,	1
Boiler maker,	5
Butcher,	1
Chauffeur,	10
Clerical—general office,	21
Collector,	15
Creamery workers,	13
Die makers,	1
Doubling, heating and catching in hot mill,	170
Drill press,	85
Drivers,	6
Electricians,	14
Elevator operators,	2
Engineer—stationary,	2
Foreman,	1
Factory workers:	
Chocolate,	1
Cutlery,	1
Glass,	11
Leather,	5
Paper,	10
Pile fabric,	3
Silk,	1
Filter man,	2
Fireman—stationary,	11
Grinder,	10
Inspector—steel,	24
Knitter,	53
Laborer,	262
Lathe hands,	20
Laundry help,	6
Machinists,	15

Nature of Work.	Positions Offered.
Machinist's helper,	42
Machinist—tool maker,	10
Miller,	4
Milling machine,	54
Miner,	175
Moulder,	15
Painter,	2
Paint maker,	89
Printers,	1
Punch press,	3
Reed workers,	1
Refining works—gauger and pumper,	3
Riveters,	55
Salesman,	13
Shipyard,	55
Spinners,	12
Solderer,	5
Tailor,	3
Teacher,	1
Watchman,	10
Wood-working machine,	46
Total,	1,381

STIFF WRIST JOINTS OF BOTH ARMS.

Driver—teamster,	2
Foreman,	2
Inspector—shop,	20
Laborer,	44
Machinist—tool maker,	1
Miner,	407
Paint maker,	2
Polisher,	1
Salesman and solicitor,	1
Teacher—tutor,	3
Textiles—weaver,	6
Total,	489

STIFF ELBOW JOINT OF ONE ARM.

Boiler maker,	5
Brick maker,	6
Butcher,	1
Carpenter,	2
Chauffeur,	10
Cement worker,	1
Clerk—general office,	36
Clerk—stock,	1
Collector,	15
Electrician,	1
Engineer—steam,	1
Factory workers:	
Cigar,	1
Chocolate,	1
Silk,	1
Foundry workers,	5
Glass worker,	8
Grinder,	10
Hospital—orderly,	1
Inspector—shop,	22
Laborer,	202
Machinist—drill press,	45
Machinist—general,	43
Machinist—helper,	21
Machinist—lathe hand,	98
Machinist—milling machine,	15
Miller,	2
Miner	158
Moulder—steel,	1

Nature of Work.	Positions Offered.
Paint maker,	2
Planer and saw mill worker,	25
Plumber—steam and pipe fitter,	12
Policeman,	1
Printer,	1
Punch press,	2
Reed and willow worker,	2
Salesman and solicitor,	4
Shipwright and joiner,	2
Shoe worker,	4
Stamp press,	5
Steel rolling mill helper,	30
Tailor—garment worker,	2
Teacher—tutor,	1
Textiles—knitter,	35
Textiles—weaver,	5
Watchman,	7
Total,	853

STIFF ELBOW JOINTS OF BOTH ARMS.

Foreman,	1
Inspector—shop,	20
Laborer,	29
Policeman,	1
Total,	51

STIFF SHOULDER JOINT OF ONE ARM.

Brick maker,	3
Butcher,	1
Chauffeur,	10
Chemist,	6
Clerk—general office,	23
Clerk—shipping,	1
Clerk—timekeeper,	1
Collector,	15
Confectioner,	1
Dairyman and stock raiser,	10
Driver—teamster,	30
Electrician,	3
Factory workers:	
Cutlery,	2
Furniture,	7
Refining works,	1
Pile fabric,	3
Farmhands,	1
Fireman—stationary engine,	1
Glass worker,	4
Hospital—orderly,	2
Inspector—shop,	21
Iron worker—structural,	9
Knitter,	6
Laborer,	109
Machinist—drill press,	42
Machinist—general,	86
Machinist—milling machine,	22
Miller,	1
Miner,	8
Paint maker,	3
Planer and saw mill worker,	2
Potter,	2
Printer,	1
Salesman and solicitor,	2
Sheet metal worker,	88
Shoe worker,	1
Steel rolling mill helper,	55
Stamping press,	4
Tailor—garment worker,	2

Nature of Work.	Positions Offered.
Teacher—tutor,	2
Textiles—weaver,	1
Tinsmith,	5
Watchman,	2
Woodworker,	16
Total,	615

STIFF SHOULDER JOINTS ON BOTH ARMS.

Inspector—shop,	40
Laborer,	5
Machinist—general,	5
Shoe-worker,	4
Watchman,	4
Total,	58

PARTIAL LOSS OF ONE FOOT.

Advertising,	1
Agricultural work,	1
Armature winding,	4
Attendant—insane hospital,	1
Automobile repairman,	15
Bakery helpers,	6
Bench work,	75
Blacksmith helpers,	12
Boiler maker,	8
Brick makers,	75
Butcher,	3
Bronze and brass workers,	1
Carpenters,	13
Chemical work,	16
Clerical,	35
Compositor,	2
Confectioner,	2
Core maker,	11
Crane runners,	46
Dental instrument maker,	1
Drill press,	67
Dye house work,	20
Electric work—wireman and helper,	14
Engineer,	2
Factory workers:	
Boxes,	5
Button,	21
Chair,	4
Cigar,	1
Cutlery,	7
Furniture,	7
Glass,	37
Shirt,	3
Shoe,	1
Silk,	109
Fireman,	5
Foundry worker,	3
Grinder,	36
Hardware,	2
Inspector—steel,	30
Iron machine work,	16
Knitter,	96
Laborer,	390
Lathe hand,	107
Laundry work,	2
Linotype operators,	3
Machine work—seaming,	4
Machine tool,	1
Machine work—light,	117
Machinists,	77
Machinists—drill press,	41
Meter work,	4

Nature of Work.	Positions Offered.
Miller,	1
Miner,	17
Monlder,	75
Nail cutter,	1
Oil field laborer,	1
Optical work,	1
Packing machine cleansing,	1
Paper makers,	2
Pile wire makers,	2
Pipe threading,	20
Painters,	5
Paint makers,	3
Planing mill work,	11
Plasterer,	1
Plaster wheeler,	1
Plumber,	6
Polisher,	1
Pottery work,	2
Press work—press feeder,	3
Printer,	2
Printing machine helper,	25
Punch press operator,	95
Quarryman,	6
Reed worker,	2
Refining works—gauger and pumper,	3
Rivet heating,	33
Rolling mill work,	127
Ruling machine,	1
Salesman,	1
Sewing machine operator,	2
Shipper—baking company,	1
Ship builder,	1
Shoe beaming,	1
Sledge hammer helper,	4
Spinner,	3
Solderer,	8
Steam shovel helper,	1
Stove work—moulder,	4
Stove work—polisher,	1
Stove work—plater,	1
Stove mounter,	10
Tailor,	4
Teacher,	3
Warehouseman,	4
Watchman,	4
Weaver,	74
Wire maker,	1
Woodworker—Machine,	14
Total,	2,135

PARTIAL LOSS OF BOTH FEET.

Armature winding,	3
Chemist,	1
Clerk—general office,	6
Clerk—shipping,	5
Crane runner,	2
Electrician,	1
Factory workers:	
Boxes,	5
Button,	22
Cutlery,	7
Silk,	5
Wire matting,	2
Wire,	2
Foreman,	10
Glass worker,	30
Grinder,	5
Inspector—shop,	20
Janitor,	21
Machinist—bench hand,	18
Machinist—drill press,	30

Nature of Work.	Positions Offered.
Machinist—tool maker,	11
Machinist—general,	41
Machinist—lathe hand,	25
Machinist—milling machine,	5
Miner,	160
Planer and saw mill worker,	4
Polisher,	3
Printer—monotype—linotype,	2
Reed and willow worker,	1
Shoe worker,	1
Teacher—tutor,	1
Textiles—weaver,	18
Weighmaster,	6
Total,	473

LOSS OF ONE FOOT AT ANKLE.

Armature winding,	1
Automobile repairer,	13
Boiler maker,	3
Brick maker,	1
Butcher,	2
Chipper and caulker,	30
Clerk—general office,	78
Clerk—shipping,	5
Confectioner,	2
Core maker,	34
Dairyman and stock raiser,	3
Electrician,	15
Engineer—steam,	1
Executive—secretarial,	1
Factory workers:	
Box,	1
Button,	20
Cigar,	2
Cutlery,	2
Nut and bolt,	2
Shoe,	1
Fireman—stationary engine,	2
Glass worker,	31
Grinder,	8
Hospital—orderly,	1
Inspector—shop,	20
Knitter,	42
Laborer,	178
Laundryman,	1
Leather worker—tanner, etc.,	2
Machinist—apprentice,	15
Machinist—bench hand,	26
Machinist—drill press,	31
Machinist—general,	306
Machinist—lathe hand,	26
Machinist—milling machine,	44
Machinist—tool maker,	11
Miner,	46
Moulder,	55
Packer—bundler and wrapper,	5
Painter,	2
Planer and saw mill worker,	2
Plasterer,	1
Plumber—steam and pipe fitter,	6
Polisher,	46
Printer—monotype—linotype,	2
Printer—pressman and feeder,	1
Reed and willow worker,	2
Salesman and solicitor,	1
Section hand,	3
Shoe worker,	1
Soap maker,	1
Steel rolling mill shearman,	2
Storage and warehouse worker,	9
Tailor—garment worker,	4

Nature of Work.	Positions Offered.
Teacher—tutor,	1
Textiles—spinner,	3
Textiles—weaver,	274
Tinsmith,	4
Upholsterer,	1
Woodworking machine,	41
Total,	1,474

LOSS OF BOTH FEET AT ANKLE.

Car repairman,	3
Clerk—general office,	21
Crane runner,	2
Factory workers:	
Button,	1
Cutlery,	2
Silk,	2
Glass worker,	20
Grinder,	19
Laborer,	24
Machinist—bench hand,	28
Machinist—drill press,	21
Machinist—general,	36
Machinist—tool maker,	4
Miner,	66
Moulder—steel,	1
Polisher,	25
Printer—monotype—linotype,	2
Reed and willow worker,	1
Teacher,—tutor,	1
Telephone operator,	1
Textiles—weaver,	10
Weighmaster,	3
Total,	293

LOSS OF ONE LEG BELOW THE KNEE.

Brass smelter,	1
Brick maker,	2
Buffer,	20
Butcher,	2
Candy maker,	6
Carpenter,	22
Cashier,	1
Chemist,	9
Clerk—general office,	77
Clerk—stock,	11
Core maker,	21
Crane runner,	28
Dyer—cleaner,	11
Electrician,	3
Electro plater,	23
Elevator operator,	12
Engineer—steam,	1
Factory workers:	
Apparel,	12
Button,	24
Box,	1
Cigar,	5
Cutlery,	42
Furniture,	25
Hosiery,	1
Nail,	1
Paper,	1
Fireman—stationary engine,	3
Flagman—yardman,	1
Forgeman,	15
Glass cutter,	34
Grinder,	3
Hospital—orderly,	1
Inspector—shop,	23
Knitter,	75
Laborer,	108

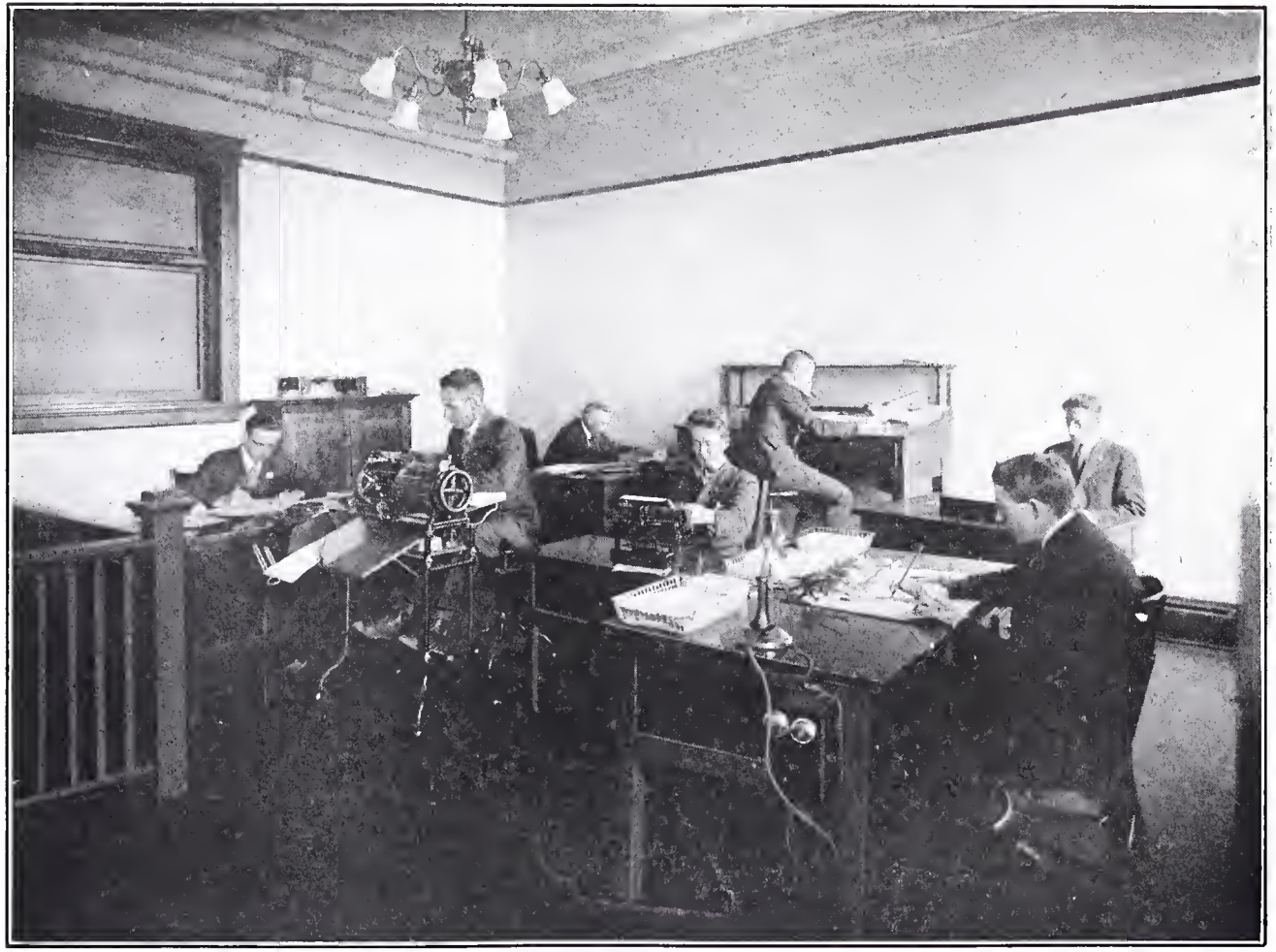
Nature of Work.	Positions Offered.
Laundryman,	3
Leather worker—tanner, etc.,	3
Locksmith,	1
Machinist—bench hand,	34
Machinist—drill press,	38
Machinist—general,	166
Machinist—helper,	31
Machinist—lathe hand,	65
Miller,	1
Miner,	13
Moulder—iron,	6
Packer—bundler and wrapper,	8
Paint maker,	2
Painter,	35
Plumber—steam and pipe fitter,	28
Polisher,	4
Printer—monotype—linotype,	4
Printer—pressman and feeder,	2
Reed and willow worker,	2
Salesman and solicitor,	2
Shoe worker,	3
Steel rolling mill shearman,	26
Tailor—garment maker,	1
Teacher—tutor,	1
Telephone,	1
Textile—spinner,	23
Textiles—weaver,	85
Watchman,	21
Watchmaker and jeweler,	1
Welder,	1
Wire products,	1
Wood-worker,	55
Total,	1,292

LOSS OF BOTH LEGS BELOW THE KNEE.

Armature winding,	4
Clerk—general office,	27
Clerk—stenographer,	6
Crane runner,	2
Glass cutter,	11
Grinder,	2
Laborer,	3
Machinist—bench hand,	20
Machinist—drill press,	10
Machinist—general,	37
Machinist—tool maker,	10
Miner,	80
Polisher,	16
Reed and willow worker,	1
Shoe worker,	4
Weighmaster,	3
Total,	236

LOSS OF ONE LEG AT KNEE.

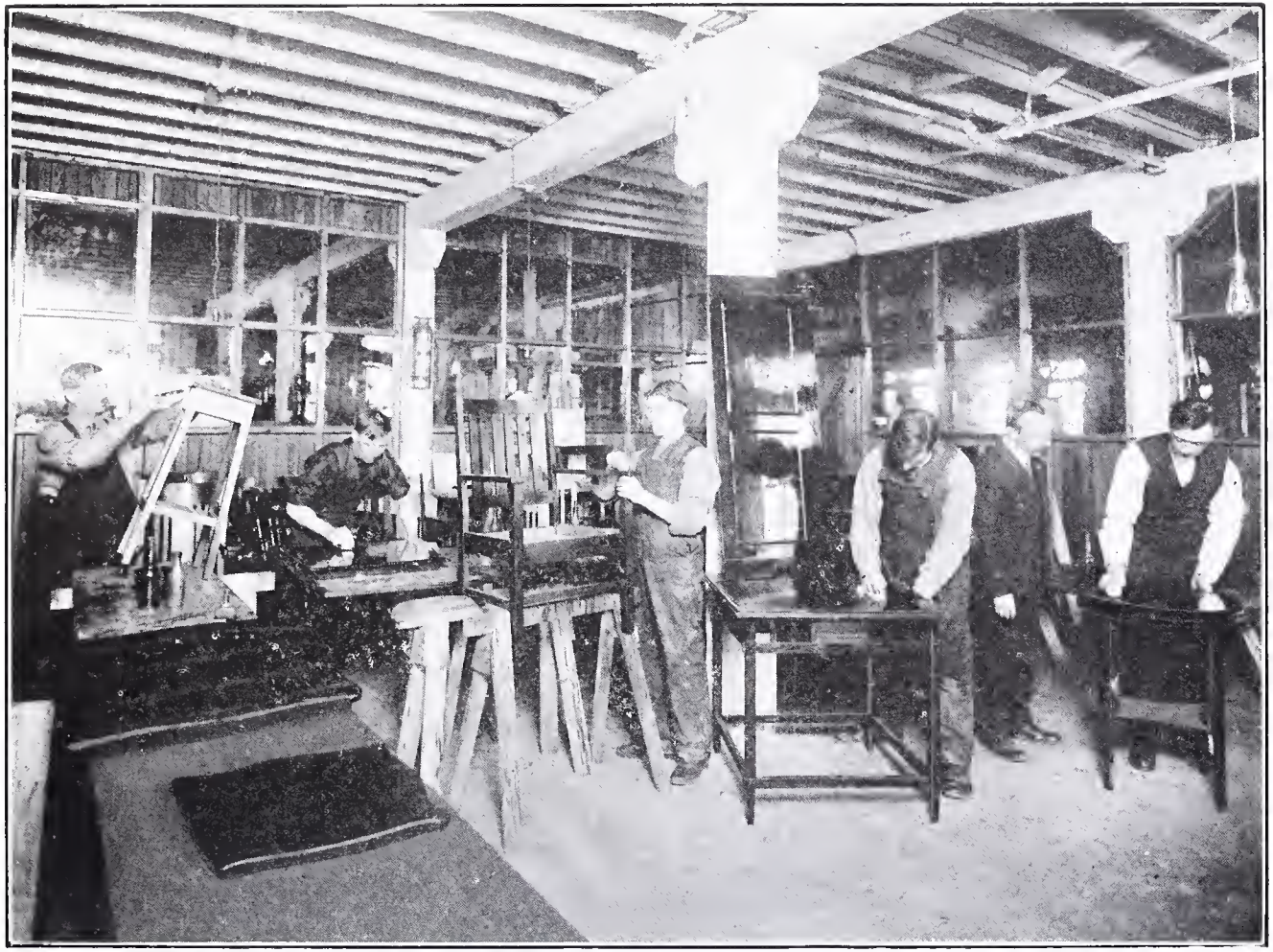
Armature winding,	1
Bookkeeper—accountant,	1
Brick maker,	9
Butcher,	1
Carpenter,	2
Car repairman,	3
Clerk—general office,	39
Clerk—shipping,	11
Crane runner,	22
Dairyman and stock raiser,	28
Dyer—cleaner,	17
Electrician,	12
Engineer—sanitary,	1



Invalided Soldiers' Commission, Canada.

LEARNING OFFICE METHODS

Returned men with previous office experience are often given advanced training in office procedure and management.



Invalided Soldiers' Commission, Canada.

APPLYING THE FINISHING TOUCHES

Manufacturers of pianos, furniture and highly polished articles of wood can give employment to such skilled workers.

Nature of Work.	Positions Offered.
Engineer—steam,	1
Factory workers:	
Buttons,	20
Chair,	8
Cutlery,	5
Silk,	1
Paper,	1
Furniture,	1
Cigar,	1
Nail,	1
Apparel,	1
Fireman—stationary engine,	4
Foreman,	6
Glass worker,	66
Grinder,	28
Hospital—orderly,	1
Iron worker—structural,	5
Knitter,	1
Laborer,	82
Laundryman,	2
Machinist—bench hand,	72
Machinist—drill press,	75
Machinist—general,	183
Machinist—lathe hand,	135
Machinist—milling machine,	11
Machinist—tool maker,	11
Miller,	1
Miner,	3
Moulder—brass,	6
Moulder—steel,	9
Packer—bundler and wrapper,	2
Paint maker,	2
Planer and saw mill worker,	9
Plumber—steam and pipe fitter,	6
Polisher,	5
Powder mill worker,	28
Printer—engraver,	1
Printer—monotype—linotype,	2
Printer—pressman and feeder,	3
Reed and willow worker,	2
Sheet metal worker,	6
Shoe worker,	1
Tailor—garment worker,	5
Teacher—tutor,	1
Textiles—spinner,	2
Textiles—weaver,	7
Watchman,	7
Wood-worker,	9
Total,	986

LOSS OF BOTH LEGS AT KNEE.

Clerk—general office,	10
Electric crane runner,	4
Factory workers:	
Cutting and sorting bobbins,	3
Pairing stockings,	16
Glass cutter,	17
Laborer,	1
Machinist—bench hand,	16
Machinist—general,	26
Miner,	3
Printer—monotype—linotype,	12
Reed and willow worker,	1
Sheet metal worker,	8
Textiles—weaver,	8
Total,	125

LOSS OF ONE LEG AT MIDDLE OF THIGH.

Nature of Work.	Positions Offered.
Armature winding,	1
Automobile repairer,	1
Chemist,	5
Clerk—general office,	53
Crane runner,	23
Dairyman and stock raiser,	3
Dyer—cleaner,	1
Dynamo work,	3
Electrician,	9
Engineer—steam,	1
Factory workers:	
Apparel,	1
Button,	21
Cigar,	1
Cutlery,	3
Hats and caps,	1
Hosiery,	1
Nut and bolt,	1
Shoe,	2
Stove,	1
Glass cutter,	19
Hospital—orderly,	1
Inspector—shop,	3
Knitter,	1
Laborer,	32
Machinist—bench hand,	48
Machinist—drill press,	44
Machinist—general,	69
Machinist—helper,	3
Machinist—milling machine,	30
Machinist—tool maker,	6
Miner,	14
Packer—bundler and wrapper,	5
Paint maker,	2
Plumber—steam and pipe fitter,	6
Polisher,	22
Printer—monotype—linotype,	12
Printer—pressman and feeder,	1
Reed and willow worker,	11
Stone cutter,	11
Tailor—garment worker,	2
Teacher—tutor,	1
Textiles—spinner,	3
Textiles—weaver,	81
Watchman,	5
Watchmaker and jeweler,	1
Wood worker,	1
Check weighman,	6
Total,	572

LOSS OF BOTH LEGS AT MIDDLE OF THIGH.

Clerk—general office,	1
Factory workers:	
Stocking,	1
Cigar,	20
Glass cutter,	18
Grinder,	7
Laborer,	1
Machinist—bench hand,	12
Machinist—light,	27
Reed and willow worker,	1
Shoe worker,	1
Total,	89

LOSS OF LEG AT HIP JOINT.

Nature of Work.	Positions Offered.
Armature winding,	1
Bottler,	10
Chemist,	1
Clerk—general office,	53
Crane runner,	32
Electrician,	1
Elevator operator,	1
Factory workers:	
Button,	21
Cigar,	1
Paper,	3
Shoe,	1
Fireman—stationary engine,	1
Forgeman,	2
Glass worker,	8
Hospital—orderly,	2
Inspector—shop,	25
Laborer,	40
Machinist—bench hand,	27
Machinist—drill press,	11
Machinist—general,	123
Machinist—helper,	85
Machinist—milling machine,	15
Machinist—tool maker,	1
Miner,	18
Packer—bundler and wrapper,	6
Paint maker,	2
Polisher,	6
Plumber—steam and pipe fitter,	2
Printer,	4
Reed and willow worker,	1
Riveter,	1
Textiles—spinner,	5
Textiles—weaver,	224
Watchman,	5
Wood-worker,	10
Total,	747

LOSS OF BOTH LEGS AT HIP JOINTS.

Baker,	1
Clerk—general office,	3
Clerk—stenographer,	5
Draughtsman,	1
Factory workers:	
Cigar maker,	20
Glass cutter,	6
Laborer,	2
Machinist—bench hand,	21
Reed and willow worker,	1
Textiles—sorter,	8
Textiles—weaver,	2
Total,	70

STIFFNESS OF LOWER EXTREMITIES—ONE LEG.

Armature winding,	5
Brick maker,	7
Clerk—general office,	54
Clerk—shipping,	1
Factory workers:	
Apparel,	1
Bolt,	1
Button,	20
Carpet,	1
Cigars,	1
Cutlery,	1
Furniture,	2
Fireman—stationary engine,	2

Nature of Work.	Positions Offered.
Glass cutter,	21
Grinder,	12
Hospital—orderly,	1
Inspector—shop,	7
Janitor,	2
Knitter,	36
Laborer,	37
Machinist—bench hand,	5
Machinist—boring machine,	1
Machinist—drill press,	53
Machinist—general,	287
Machinist—helper,	41
Machinist—lathe hand,	13
Paint maker,	2
Painter,	63
Planer and saw mill worker,	2
Plumber—steam and pipe fitter,	2
Polisher,	25
Reed and willow worker,	1
Rigger,	2
Shipwright and joiner,	3
Stone cutter,	2
Tailor—garment worker,	3
Textiles—spinner,	2
Textiles—weaver,	64
Watchman,	10
Total.	793

STIFFNESS OF LOWER EXTREMITIES OF BOTH LEGS.

Baker,	1
Clerk—general office,	1
Draughtsman,	4
Factory workers:	
Button,	20
Cutlery,	1
Hosiery,	1
Glass cutter,	9
Grinder,	13
Laborer,	2
Machinist—bench,	20
Machinist—general,	61
Machinist—helper,	10
Quarryman,	1
Reed and willow worker,	1
Textiles—spinner,	2
Textiles—weaver,	2
Watchmaker and jeweler,	1
Total,	149

BLINDNESS IN ONE EYE.

Automobile repairer,	7
Automobile washer,	15
Baker,	31
Boiler maker,	20
Butcher,	3
Cabinet maker,	20
Candy maker,	16
Carpenter,	22
Chauffeur,	1
Chemist,	10
Clerk—general office,	20
Crane runner,	16
Dairyman and stock raiser,	3
Driver—teamster,	30
Dyer—cleaner,	5
Electrician,	81
Electro plater,	31

Nature of Work.	Positions Offered.
Factory workers:	
Apparel,	1
Chair,	1
Cigar,	26
Cutlery,	4
Hat,	1
Pen and pencil,	1
Nail,	2
Farmhand,	6
Fireman—stationary engine,	14
Foreman,	1
Foundry worker,	220
Glass worker,	81
Grinder,	41
Handyman—hatchet and saw,	42
Inspector—shop,	30
Iron worker—structural,	3
Janitor,	1
Laborer,	2,568
Leather worker—tanner, etc.,	3
Locksmith,	1
Lumberman—logger,	21
Machinist—bench hand,	68
Machinist—drill press,	56
Machinist—general,	250
Machinist—lathe hand,	72
Miner,	1,490
Motorman,	2
Moulder,	52
Packer, bundler and wrapper,	1
Paint maker,	3
Plumber—steam and pipe fitter,	27
Polisher,	55
Printer—monotype—linotype,	12
Printer—pressman and feeder,	15
Printer—compositor,	8
Publicity—advertiser,	2
Reed and willow worker,	3
Riveter,	40
Salesman and solicitor,	4
Shipwright and joiner,	10
Steel rolling mill helper,	19
Tailor—garment worker,	7
Textiles—spinner,	3
Textiles—weaver,	8
Watchman,	2
Welder,	1
Wood-worker,	71
Total,	5,618

BLINDNESS IN BOTH EYES.

Telegraph operator,	1
Cigar maker,	1
Total	2

DEAFNESS IN ONE EAR.

Automobile repairer,	6
Baker,	27
Boiler maker,	77
Braiding machine,	2
Brass smelter,	12
Brick maker,	160
Butcher,	3
Cabinet maker,	60
Candy maker,	50
Carpenter,	13
Chemist,	11
Clerk—general office,	37

Nature of Work.	Positions Offered.
Clerk—shipping,	13
Coppersmith,	12
Dairyman and stock raiser,	100
Dyer—cleaner,	17
Electrician,	24
Factory workers:	
Apparel,	1
Button,	22
Cigar,	5
Cutlery,	6
Furniture,	130
Hosiery,	2
Hats and caps,	1
Paper,	5
Pens and pencils,	1
Shoe,	2
Nail,	1
Fireman—stationary engine,	3
Forgeman,	37
Glass worker,	61
Grinder,	55
Handy man—hatchet and saw,	1
Inspector—shop,	40
Iron worker,	133
Janitor,	1
Knitter,	118
Laborer,	2,788
Locksmith,	1
Lumberman—Logger,	50
Machinist—bench hand,	120
Machinist—drill press,	164
Machinist—general,	394
Machinist—helper,	75
Machinist—lathe hand,	59
Machinist—milling machine,	53
Machinist—tool maker,	77
Miner,	61
Moulder—steel,	6
Packer—bundler and wrapper,	1
Paint maker,	4
Planer and saw mill worker,	3
Plumber—steam and pipe fitter,	2
Polisher,	167
Printer,	6
Publicity—advertiser,	2
Reed and willow worker,	5
Salesman and solicitor,	1
Shipwright and joiner,	5
Steel rolling mill worker,	110
Storage and warehouse worker,	5
Tailor—garment worker,	3
Teacher—tutor,	2
Textiles—carder,	12
Textiles—spinner,	20
Textiles—twister,	176
Textiles—weaver,	153
Watchmaker and jeweler,	1
Wood-worker,	26
Wire maker,	35
Total,	5,936

DEAFNESS IN BOTH EARS.

Brick maker,	9
Carpenter,	4
Factory workers:	
Button,	1
Cigar,	5
Hardware,	1
Hosiery,	12
Nail,	1
Fireman—stationary engine,	4

Nature of Work.	Positions Offered.
Forgeman,	1
Glass worker,	84
Grinder,	41
Inspector—shop,	16
Knitter,	3
Laborer,	100
Machinist—general,	91
Miner,	93
Moulder—iron,	12
Packer—bundler and wrapper,	1
Plumber—steam and pipe fitter,	2
Polisher,	30
Potter,	20
Printer—engraver,	1
Printer—monotype—linotype,	2
Printer—compositor,	2
Reed and willow worker,	2
Stone cutter,	21
Textiles—spinner,	27
Textiles—weaver,	26
Total,	612

LOSS OF SPEECH.

Armature winder,	12
Baker,	2
Boiler maker,	3
Braiding machine,	13
Brick makers,	176
Candy makers,	9
Chauffeur,	2
Crane runner,	32
Dairyman and stock raiser,	102
Driver—teamster,	1
Dyer—cleaner,	5
Electro-plater,	21
Engineer—steam,	11
Factory workers:	
Box,	1
Button,	23
Chair,	6
Cigar,	35
Cutlery,	2
Hosiery,	10
Spring,	4
Filter man,	2
Fireman—stationary engine,	24
Foundry worker,	52
Gardener—nurseryman—forester,	2
Glass worker,	48
Handyman—hatchet and saw,	51
Hat maker,	1
Knitters,	103
Laborers,	726
Laundryman,	2
Machinist—bench hand,	63
Machinist—drill press,	80
Machinist—general,	169
Machinist—lathe hand,	55
Machinist—tool maker,	52
Miner,	311
Moulder,	81
Nail makers,	1
Planer and saw mill workers,	1
Plumber—steam and pipe fitter,	100
Polisher,	37
Powder makers,	10
Printer—engraver,	1
Printer—linotype,	1
Publicity—advertiser,	1
Reed and willow worker,	21
Refining work,	**7**

Nature of Work.	Positions Offered.
Rigger,	5
Steel rolling mill roller—screwman,	2
Storage and warehouse worker,	1
Textiles—beamer,	20
Textiles—bleacher,	1
Textiles—spinner,	24
Textiles—twister,	54
Textiles—weaver,	260
Woodworker—machine,	5
Total,	2,864

REPULSIVE FACIAL DISFIGUREMENTS.

Armature winding,	1
Automobile repairer,	2
Blacksmith,	1
Boiler maker,	3
Brick maker,	191
Butcher,	2
Carpenter,	279
Chemist,	40
Chipper and caulker,	105
Clerk—general office,	7
Coke workers,	340
Coppersmith,	3
Core maker,	101
Crane runner,	5
Dairyman and stock raiser,	110
Driver—teamster,	4
Dyer—cleaner,	75
Electrician,	58
Electric plater,	2
Engineer—steam,	1
Factory workers:	
Apparel,	1
Box,	1
Cutlery,	6
Furniture,	30
Hosiery,	11
Paper,	7
Farm-hands,	4
Fireman—stationary engine,	17
Foreman,	3
Foundry worker,	66
Glass worker,	66
Grinder,	4
Iron worker—structural,	84
Knitter,	152
Laborer,	3,032
Laundryman,	1
Locksmith,	1
Lumberman—logger,	105
Machinist—drill press,	50
Machinist—general,	409
Machinist—helper,	52
Machinist—lathe hand,	52
Machinist—tool maker,	1
Miller,	2
Miner,	343
Moulder—steel,	231
Paint maker,	30
Painter,	1
Plumber—steam and pipe fitter,	3
Polisher,	57
Powder worker,	155
Printer,	3
Publicity advertiser,	2
Reed and willow worker,	2
Sheet metal worker,	22
Steel rolling mill worker,	12
Steel rolling mill shearman,	3
Teacher—tutor,	1

Invalided Soldiers' Commission, Canada.

LEARNING TO RUN A STRAIGHT FURROW

Some types of war's disabilities do not prevent the returned soldiers from taking up general farming.

Invalided Soldiers' Commission, Canada.

TRUCK GARDENING HAS POSSIBILITIES

For the soldier from an agricultural community, instruction in intensive cultivation of the soil is valuable.

Nature of Work.	Positions Offered.
Textiles—earder,	12
Textiles—eutter,	2
Textiles—spinner,	14
Textiles—twister,	125
Textiles—weaver,	247
Tinsmith,	1
Watehman,	1
Watehmaker and jeweler,	4
Wood-worker,	34
Total,	6,797

HERNIA.

Armature winding,	1
Baker,	1
Briekmakers,	15
Chemist,	1
Clerk—general offiee,	32
Clerk—stoek,	1
Crane runner,	22
Dairyman and stock raiser,	50
Eleetrieian,	11
Eleetro plater,	12
Faetory workers:	
Apparel,	2
Button,	21
Cigar,	8
Hosiery,	11
Paper,	1
Wire,	1
Fireman—stationary engine,	1
Glass worker,	108
Handyman—hatehet and saw,	53
Hospital—orderly,	30
Laborer,	378
Leather worker—tanner, ete.,	14
Lineman,	51
Maehinist—beneh hand,	143
Maehinist—drill press,	63
Maehinist—general,	167
Maehinist—lathe hand,	4
Messenger—errand boy,	1
Moulder,	16
Paint maker,	37
Painter,	20
Plasterer,	31
Plumber—steam and pipe fitter,	24
Polisher,	31
Porter,	6
Powder workers,	53
Printer,	1
Reed and willow worker,	1
Salesman and solieitor,	21
Seetion hand,	87
Shipwright and joiner,	53
Textiles—beamer,	10
Textiles—spinner,	24
Textiles—twister,	4
Textiles—weaver,	73
Watehman,	58
Woodworker,	20
Total,	1,773

GENERAL HEALTH IMPAIRMENT.

Bakers,	2
Buteher,	1
Cashier,	1
Cement work,	2
Chemist,	22

Nature of Work.	Positions Offered.
Clerk—general office,	51
Clerk—stenographer,	1
Collector,	21
Dairyman and stock raiser,	5
Driver—teamster,	27
Electrician,	26
Engineer—steam,	1
Factory workers:	
Apparel,	1
Button,	21
Chair,	1
Cigar makers,	26
Cutlery,	12
Knitters,	44
Make button holes,	2
Sewing machine and lag room,	1
Wire maker,	1
Glass worker,	54
Grinder,	2
Laborer,	77
Machine operator,	62
Machine tools,	1
Machinist—bench hand,	5
Machinist—drill press,	4
Machinist—general,	19
Machinist—lathe hand,	20
Miller,	2
Motor trucks,	1
Moulder—steel,	21
Paint maker,	3
Power press,	20
Plumber—steam and pipe fitter,	22
Printer—compositor,	16
Reed and willow worker,	1
Salesman and solicitor,	3
Sheet metal worker,	30
Teacher—tutor,	1
Textiles—weaver,	292
Tinsmith,	3
Toggler,	1
Watchman,	20
Winding armature,	1
Wood-worker,	7
Total,	957

MISCELLANEOUS.

Automobile repairer,	2
Baker,	3
Boiler maker,	1
Brewer,	5
Cabinet maker,	1
Candy maker,	1
Carpenter,	1
Chemist,	2
Clerk—general office,	30
Clerk—stenographer,	1
Clerk—stock,	3
Conductor,	3
Cook—caterer,	1
Core maker,	7
Dairyman and stock raiser,	5
Driver—teamster,	1
Electrician,	7
Engineer—steam,	1
Factory workers:	
Bedding Co.,	5
Cigar,	5
Horse shoe Co.,	40
Hosiery mill,	41
Making of springs,	100
Paper box Mfg. Co.,	1

Nature of Work.	Positions Offered.
Shirt Mfg. Co.,	1
Wheelbarrows,	1
Wheel Co.,	1
Worsted mills,	1
Farmhand,	4
Fireman—stationary engine,	2
Glass worker,	110
Grinder,	50
Inspector—shop,	4
Laborer,	98
Laundryman,	2
Leather worker—tanner,	25
Machinist—bench hand,	44
Machinist—drill press,	260
Machinist—general,	85
Machinist—lathe hand,	26
Machinist—milling machine,	2
Miner,	254
Motorman,	3
Moulder—brass,	3
Moulder—iron,	2
Moulder—steel,	1
Paint maker,	1
Pattern maker,	1
Polisher,	25
Printer—pressman and feeder,	3
Printer—compositor,	6
Salesman and solicitor,	3
Teacher—tutor,	4
Textiles—weaver,	83
Tinsmith,	3
Watchman,	41
Watchmaker and jeweler,	4
Wood-worker,	14
Surgical instrument,	1
Planing mill,	1
Pen holder Co.,	3
Total,	1,439

Classification of the employment opportunities by counties, indicating the numbers of men variously handicapped for whom employment is offered in each of 60 counties is given in the following table:

TABLE III.

CLASSIFICATION OF NUMBERS OF MEN, BY DISABILITY, FOR WHOM EMPLOYMENT IS OFFERED IN EACH COUNTY.

	Loss of fingers.		Loss of hand at wrist.		Loss of arm below elbow.		Loss of arm at shoulder.		Stiff finger joints.		Stiff wrist joint.		Stiff elbow joint.		Stiff shoulder joint.		Partial loss of foot.		Loss of foot at ankle.	
	One hand.	Both hands.	One hand.	Both hands.	One arm.	Both arms.	One arm.	Both arms.	One hand.	Both hands.	One arm.	Both arms.	One arm.	Both arms.	One arm.	Both arms.	One foot.	Both feet.	One foot.	Both feet.
Adams,									2								2			
Allegheny,	577	3	101		96		66		376	6	119	1	114		103		215	43	192	32
Armstrong,	7								8		6						2		2	
Beaver,	46	25	3		3		1		45	6	34	5	19	2	11		37	2	13	
Bedford,	14		4		6		2		6		6		7		6		26		20	
Berks,	72	13	9		11		11		63	18	36	8	25	3	9	3	90	22	63	14
Blair,	27	14	4		5		4		69		75		22		12		6		3	
Bradford,							1								1					
Bucks,	1		2				1		6		2		10		1		22	2	2	2
Butler,	7		1		1		1		27		50		9		2		103		103	
Cambria,	43	10	5				1		24	10	20				4		28		6	1
Cameron,																				
Carbon,																	6		6	
Centre,	2								3		2						7		3	
Chester,	48		1		1				28								25		3	
Clarion,	10		3								29								1	
Clearfield,	8	10	1		1				5								6		2	
Clinton,	252		12		12		13		12		101		35		12		164		10	
Columbia,	24	1	1				1		99	2	20	2	25		1		19		2	
Crawford,	103	45	4		4		4		95	1	20	16	15	15	17	15	13	11	13	11
Cumberland,	1																			
Dauphin,	5	1	4		3		2		7	1	4	1	4		3		17	7	14	11
Delaware,	54	2	12	2	8	1	13		40	32	14	6	12	2			25	5	15	4
Elk,	206		24		24		24		25		28		25		25		2	4	23	
Erie,	67	11	11		1		25		19	10	15		12		12		26	1	24	4
Fayette,	6		1		5		5		12		1				14		14		1	
Forest,																				
Franklin,	26		5		5				17	15	12				8		23		8	
Fulton,																				

TABLE III—Continued.

	Loss of fingers.		Loss of hand at wrist.		Loss of arm below elbow.		Loss of arm at shoulder.		Stiff finger joints.		Stiff wrist joint.		Stiff elbow joint.		Stiff shoulder joint.		Partial loss of foot.		Loss of foot at ankle.	
	One hand.	Both hands.	One hand.	Both hands.	One arm.	Both arms.	One arm.	Both arms.	One hand.	Both hands.	One arm.	Both arms.	One arm.	Both arms.	One arm.	Both arms.	One foot.	Both feet.	One foot.	Both feet.
Greene,																				
Huntingdon,	6		1						9		5						13		12	
Indiana,	22		2		3		4		1								5	1	1	1
Jefferson,	51		1		1		1		1								6	1		
Juniata,																				
Lackawanna,	37		14		15		11		41		20		18		2		129	20	69	20
Lancaster,	39	24	11		8		6		48	3	32		32		6		61	5	47	7
Lawrence,	7		3		2		1		40	25	45	35	20	25	25	15	31	27	25	20
Lebanon,	24	1	11	1	1		1	1	10	1	8	1	1	1	1		30	1	6	1
Lehigh,	12		6		5		5		19	1	20		10		4		77	13	59	11
Luzerne,	58	13	38		38		38		66	8	67		59		60		94	2	94	
Lycoming,	5	1	2				1								1		1		43	
McKean,	8		2		2				37	2	6		4		9		36	1	16	1
Mercer,	11		2		2		2		35		8		11		2		22		16	
Mifflin,	20								20								26			
Monroe,	3		1		1				6		8						2		2	
Montgomery,	49	6	6		11		7		30	16	31		18		5		69	18	11	5
Montour,																				
Northampton,	115	10	13		1		1		42	20	69		4		1		158	14	58	16
Northumberland,	14		3		2		2		3		2		2		8		18		9	
Perry,																				
Philadelphia,	228	61	37		26		27		106	7	45	5	31	3	22		128	50	154	15
Pike,																				
Potter,	5						1										4		4	
Schuylkill,	130	43	50	1	23		22		177	3	82	9	10		7	15	135	3	13	
Snyder,	2		1														2	2	2	2
Somerset,	103		5		4		8		8		7						17	6	16	
Sullivan,	5																			
Susquehanna,	2		1		1		1		2		1				1		19	3	19	
Tioga,																				
Union,	1																			
Venango,	10	1	3		2				12		6		5		3		11	3	1	3

Warren,	8		1		1		3		6				2		3		9		8	
Washington,	1,266	4	65		26		21		207	1,700	102	400	225		51	10	24	201	24	103
Wayne,									1								1			
Westmoreland,	423	276	38		40		31		474	2	221		66		160		74	1	204	1
Wyoming,																			2	2
York,	54	2	20		2		4		32		22		1		3		55	4	30	6
Totals,	4,394	577	545	4	403	1	373	1	2,421	1,889	1,381	489	853	51	615	58	2,135	473	1,474	293

TABLE III—Continued.

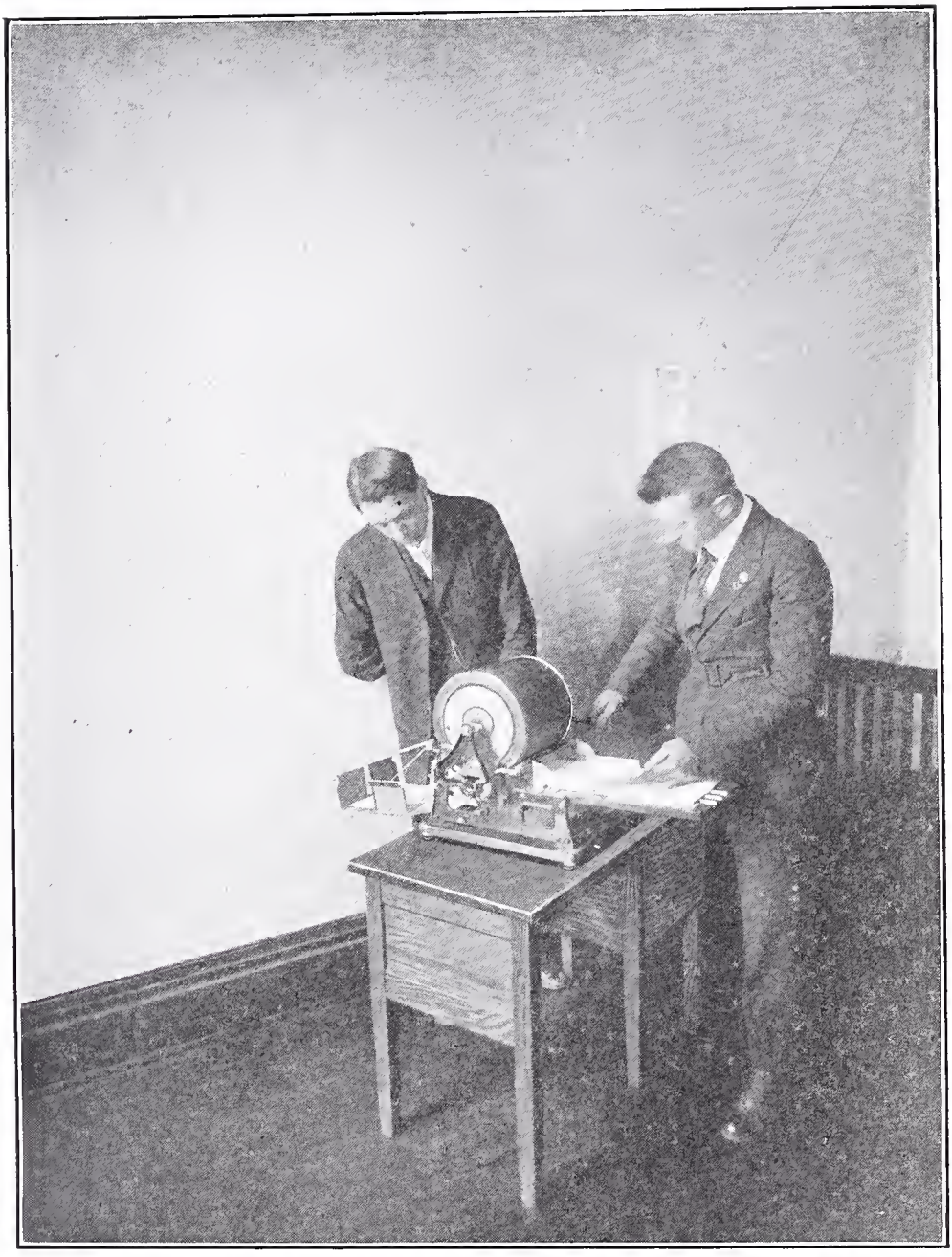
	Loss of leg below knee.		Loss of leg at knee.		Loss of leg at middle of thigh.		Loss of leg at hip joint.		Stiffness of lower extremities.		Blindness.		Deafness.		Loss of speech.	Repulsive facial disfigurements.	Hernia.	General health impairment which would prevent heavy manual labor.	Miscellaneous.	Total.
	One leg.	Both legs.	One leg.	Both legs.	One leg.	Both legs.	One leg.	Both legs.	One leg.	Both legs.	One eye.	Both eyes.	One ear.	Both ears.						
Adams,											9									13
Allegheny,	139	31	82	26	57	11	57	26	89	26	358		545	55	349	587	147	118	160	4,907
Armstrong,	2								3		29		27			11				97
Beaver,	3		12		19		25		15		187		27	3	20	79	21	34	1	698
Bedford,	18	2	10	2	14	8	8				8		10	22	226	5	2		3	435
Berks,	65	16	30	17	31	11	2		26	11	80		187	9	49	315	15	35	118	1,487
Blair,	4		3		1		6				37		85	23	51	211		3	52	717
Bradford,					1				1											4
Bucks,	2	2	2	2	2	2	3	2	3	2	10	1	25	2	18	17	18	18	1	183
Butler,			2		2				2		125		96		10	12				533
Cambria,	7		7				1		6		23	1	27	2	23	29	1	10	157	446
Cameron,			3														3		30	36
Carbon,	6		6								6		7	1	7	7	7	1	1	61
Centre,											4		27	2	10	5				65
Chester,	6		2						1		8		2	3	1	4	7	5		145
Clarion,	1		1								1				1	1				48
Clearfield,	1						4	1	4		25		10	2	12	52	6	5	12	167
Clinton,	6							1			114		103	56	50	50	101	16	26	1,146
Columbia,	3	1	1		1		2	1	4	1	71		78	9	31	63	30	6		499
Crawford,	11	11	14	16	11	11	15	10	4	1	103		106	1	4	98	5	10		833
Cumberland,													14						4	19
Dauphin,	7	8	11	8	8	8	8	3	4	2	49		138	2	10	4	4	2		360
Delaware,	28	2	3	3			1				5		3	4		20	12	10	9	347
Elk,	106				1		1				322		322		242	203	202	30	195	2,034
Erie,	10	4	4		3		18		27		81		89		6	16	6	7	59	568
Fayette,	3	1							1		58		18	1		8	22	2	2	175
Forest,																				
Franklin,	8		7						2				260	3		1	1	1	4	406
Fulton,																				
Greene,																				
Huntingdon,	6										24		2		2	2			4	86

Indiana,	3	1	1	1							33		20			27	1				127
Jefferson,		2		1		4					35		2	3	27	1		1			138
Juniata,																					
Lackawanna,	68	10	48	10	42	8	35		45	32	200		138	13	141	1,598	40	36	24		2,882
Lancaster,	41	2	28	2	10	2	11	2	32	5	50		200	3	117	50	38	62	14		998
Lawrence,	6				1		1		1		159		100		3	36	2	1	4		660
Lebanon,	8	1	2	1	6		1		2		17		6		2	2	1	2	1		153
Lehigh,	25	9	28	9	26		11		36		39		116	1	41	159	13	12	43		810
Luzerne,	67	2	62		61		60		58	55	74		182	56	165	209	62	54	9		1,811
Lycoming,	75		72		65				65		22		12	1	1	4	1	1	3		376
McKean,	8		6		3		3		9	1	49		44	30	33	22	5	12	3		352
Mercer,	16		8		9		9		10		19		21		2	19	6		3		233
Mifflin,									20		8		24				10	10			138
Monroe,	3		1										4		2		3	6	5		47
Montgomery,	5	5	5	5	3		13		20	5	169		258	42	67	152	15	15	23		1,084
Montour,																					
Northampton,	49	14	47	7	15	4	16	6	16	1	41		138	1	202	324	192	125	6		1,726
Northumberland,	11		9		4		8		4		33		22	1	32	40	6	6	4		243
Perry,																					
Philadelphia,	157	6	159	5	91	14	171	5	114	5	200		309	54	216	277	219	103	221		3,271
Pike,																					
Potter,			2		2		2		2		15		30	20	23	13	3		3		134
Schuylkill,	10		83	2	42		20	1	5	1	42		180	36	121	92	46	27	2		1,433
Snyder,	2	2	2	2	2		2	2	2		2		4	2	2	2	2	2			45
Somerset,	16		2		2				1		166		116	5	8	1		15			506
Sullivan,													50			50					105
Susquehanna,	29		22	3					20		2		20		24	18	12	31			221
Tioga,																			2		2
Union,																					1
Venango,	7		7		1		1		1		20		44	25	5	3	8	18	44		244
Warren,	9		7		7		1		6		18		13		2	7	11	12	1		135
Washington,	24	103	123	2	25	1	24		104		2,095		1,018	101	101	1,232	153	75	51		9,661
Wayne,			2				200						250		250	230	250		38		1,222
Westmoreland,	198	1	53	1			7		16		280		294	2	67	393	56	11	58		3,448
Wyoming,											2					3					9
York,	18		7		4	3	2	10	12	1	91		113	16	88	33	8	7	39		687
Totals,	1,292	236	986	125	572	89	747	70	793	149	1,618	2	5,936	612	2,864	6,797	1,773	957	1,439		49,417

Data on Crippled Workers Now Employed.

Replies to the second questionnaire, known as Form Q2, and sent for the purpose of ascertaining positions now held by disabled men in Pennsylvania, can be summarized by reproducing here the valuable and comprehensive data submitted to the Department of Labor and Industry by the Philadelphia and Reading Railway Company in response to the request of the Department.

The experience of the Philadelphia and Reading Railway Company in employing cripples in its motive power and rolling equipment department is indicated in the following table.



Invalided Soldiers' Commission, Canada.

ONE PROCESS IN A COMMERCIAL COURSE

Instruction in the operation of all devices used in modern office practice is included in a general business course.

Invalided Soldiers' Commission, Canada.

PRACTICING ON STAIRWAY

Learning to use the artificial substitute for the leg he left in Flanders in perpetuating the civilization of the world.

PHILADELPHIA & READING RAILWAY

OFFICE, SUPT. MOTIVE POWER AND ROLLING EQUIPMENT.

INFORMATION PER FORM Q-2 FOR PENNSYLVANIA STATE DEPARTMENT OF LABOR AND INDUSTRY, AS TO POSITIONS NOW HELD BY DISABLED MEN IN THE STATE OF PENNSYLVANIA.

Nature of Disability.	Sex.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present weekly wage.	Education previous to injury.	Education or special training for present occupation.	What artificial appliance is used.	REMARKS. (Nature of work and any interesting features in case.)
Blind (one eye),	Male	48	56	Scalemaker,	Scalemaker,	Good	$18 15	Common	None	Eye	Building, repairing, sealing and testing scales.
Blind (one eye),	Male	27	32	Air brake inspector helper.	Trailer,	Good	23 52	Common	None	Eye	Making light repairs to cars in train.
Stiff hip,	Male	50	67	Car repairer,	Carpenter,	Good	23 10	Common	None	None	General repairs and cabinet work at engine house.
Stiff ankle,	Male	5	57	Car repairer,	Laborer,	Good	15 60	Common	None	None	Issuing supplies.
Finger off,	Male	8	30	Laborer,	Car inspector,	Good	21 00	Common	None	None	Car repairs.
Finger off,	Male	1½	42	Boiler maker helper.	Boiler maker,	Good	33 74	Common	None	None	Locomotive repairs.
Hernia,	Male	15	43	Fire cleaner,	Hostler,	Good	25 20	Common	None	Truss	Handling locomotives in yard.
Hernia,	Male	42	55	Hostler,	Laborer,	Good	21 84	Common	None	None	Issuing supplies.
Hip trouble,	Male	Inf.	33	Flue cleaner,	Fire cleaner,	Good	25 20	Common	None	None	Cleaning fires on engines.
Right knee cap out of place,	Male	2	42	Engine house foreman.	Machinist,	Good	30 80	None	None	None	Air brake repairs.
Blind (right eye),	Male	17	45	Machinist apprentice.	Machinist,	Good	28 00	Common	None	None	Locomotive repairs: steam gauge and pop valve expert.
Double hernia,	Male	55	65	Blacksmith.	Blacksmith,	Good	21 03	Common	None	Truss	General.
Hearing impaired (both ears),	Male	41	45	Machinist,	Machinist,	Good	19 01	Common	None	None	Electric light repairs and handy mechanic on machinery repairs.
Hernia (single),	Male	53	60	Machinist,	Machinist,	Good	23 01	Common	None	Truss	Locomotive repairs.
Hernia (single),	Male	41	43	Blacksmith,	Blacksmith,	Good	27 44	Common	None	Truss	General.
Hernia (double),	Male	55	60	For. eng. Ho.,	Machinist,	Good	28 24	Common	None	Truss	Dispatching engines from engine house.
Finger off (right hand),	Male	54	59	Laborer,	Laborer,	Fair	15 34	Common	None	None	
Two thumbs off,	Male	42	52	Car repairer,	Car repairer,	Poor	18 88	Common	None	None	Handy man.

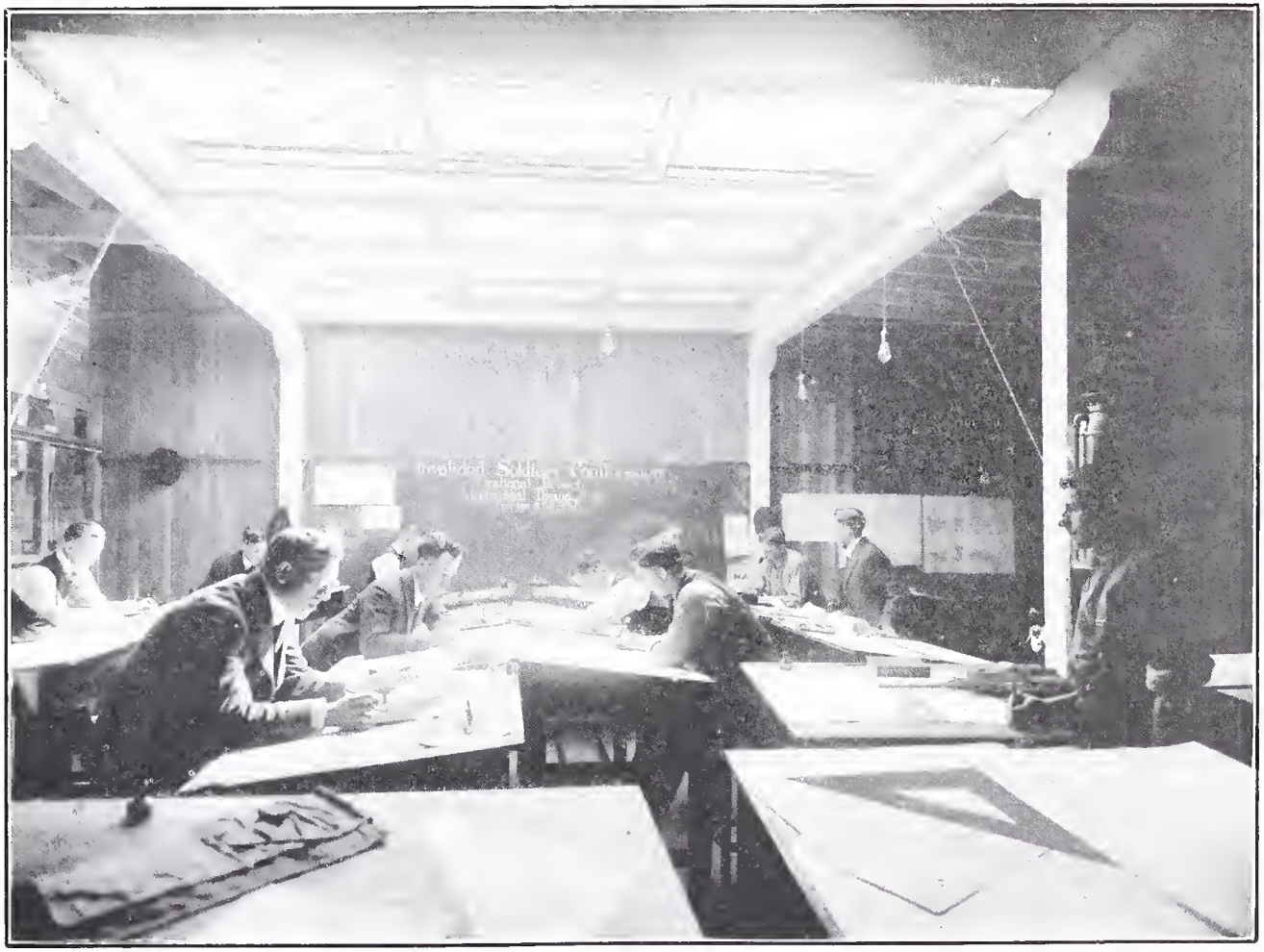
Nature of Disability.	Sex.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present weekly wage.	Education previous to injury.	Education or special training for present occupation.	What artificial appliance is used.	REMARKS. (Nature of work and any interesting features in case.)
Blind (right eye),	Male	45	55	Boilermaker,	Toolman.	Good	22 68	Common	None	None	Cares for engine crews' tools.
Blind (left eye),	Male	52	55	Boilermaker,	Motorman,	Good	23 52	Common	None	Eye	Turntable operator.
Right leg amputated at thigh,	Male	42	54	Carpenter,	Carpenter,	Good	19 80	Common	None	Leg	Bench work.
Right hand deformed,	Male	41	52	Laborer,	Head wiper,	Good	24 36	Common	None	None	Wiping engines.
Left leg amputated at thigh,	Male	22	38	Brakeman,	Craneman,	Good	23 52	Common	None	Leg	Operating electric crane at ash pits.
Right leg amputated at thigh,	Male	21	40	Brakeman,	Motorman,	Good	24 36	Common	None	Leg	Turntable operator.
Blind (left eye),	Male	42	55	Boilermaker,	Boilermaker,	Good	24 75	Common	None	None	Locomotive repairs.
Hernia (left side),	Male	26	37	Air Brk. Insp.,	Air Brk. Insp.,	Good	26 75	Common	None	Truss	Repairing air brakes test train lines in classification yard.
Hernia (left side),	Male	14	53	Farming,	Car repairer,	Good	17 00	Common	None	None	Car repairing.
Part of right foot missing at instep.	Male	20	40	Laborer,	Car repairer,	Good	17 00	Common	None	None	Car repairing.
Hernia (right side),	Male	46	63	Car inspector,	Car repairer,	Good	17 00	Common	None	Truss	Storekeeper.
Blind (right eye),	Male	31	32	Laborer,	Car repairer,	Good	17 00	Common	None	None	Drill press operator.
Blind (right eye),	Male	1½	29	Laborer,	Car repairer,	Good	17 00	None	None	Eye	Car repairing.
Hernia (right side),	Male	48	63	Powdermaker,	Car repairer,	Good	17 00	Common	None	None	Mill hand.
Hernia (left side),	Male	22	37	Laborer,	Laborer,	Good	13 75	Common	None	None	
Hernia (left side),	Male	19	36	Car inspector,	Laborer,	Good	23 50	Common	None	None	Oiling and packing journals.
Hernia (left side),	Male	28	37	Blacksmith,	Car inspector,	Good	25 20	Common	None	Truss	Inspecting passenger and freight trains.
Hernia (left side),	Male	39	69	Brakeman,	Car inspector,	Good	25 20	Common	None	None	Inspecting passenger and freight trains.
Blind (one eye),	Male	40	50	Machinist,	Asst. foreman,	Good	30 00	Common	None	None	Supervising in engine house.
Thumb (one hand),	Male	30	65	Engineman,	Laborer,	Good	23 00	Common	None	None	
Both feet off above ankle,	Male	19	49	Laborer,	Laborer,	Good	23 00	Common	None	Feet	
Three fingers off left hand,	Male	43	44	Car repairer,	Car repairer,	Good	24 00	Common	None	None	Inspecting and repairing cars.

Partial loss of right foot,	Male	31	39	Car repairer,	Carpenter,	Good	17 00	Common	None	Brace	General work.
Two fingers off left hand,	Male	17	52	Laborer,	Laborer,	Good	20 02	Common	None	None	Car repairing.
Stiff knee,	Male	21	26	Laborer,	Car repairer,	Good	18 85	Common	None	None	Issuing supplies.
Index finger left hand stiff,	Male	27	27	Machinist,	Machinist,	Good	32 34	Common	None	None	Locomotive repairs.
Loss of left index finger and hernia,	Male	20	26	Laborer,	Machinist,	Good	36 96	Common	None	Truss	Locomotive repairs.
Loss of right thumb,	Male	18	25	Boiler helper,	Boilermaker,	Good	36 96	Common	None	None	Locomotive repairs.
Broken elbow left arm,	Male	6	59	Blacksmith,	Blacksmith,	Good	32 34	Common	None	None	Locomotive repairs.
Hernia (left side),	Male	38	62	Machinist,	Air Brk. Insp.,	Good	35 28	Common	None	None	Locomotive repairs.
Fallen arches (both feet),	Male	20	22	Engine wiper,	Air Brk. Insp. helper.	Good	25 20	Common	None	Supports	Locomotive repairs.
Hernia (left side),	Male	55	56	Staty. fireman,	Staty. fireman,	Good	25 20	Common	None	None	Fires engine house boiler, etc.
Right eye slightly impaired,	Male	17	18	Laborer,	Laborer,	Good	21 84	Common	None	None	
Small finger (left hand),	Male	26	48	Fire eleaner,	Fire eleaner,	Good	26 88	Common	None	None	Cleans locomotive fires.
Hernia (right side),	Male	23	53	Pumpman,	Pumpman,	Good	21 25	Common	None	Truss	Fires stationary boiler and operates water pump.
Hernia (left side),	Male	34	60	Boiler Insp.,	Pumpman,	Good	21 25	Common	None	Truss	Fires stationary boiler and operates water pump.
Ear drums bursted,	Male	22	57	Barge Capt.,	Pass. car Rep.,	Good	21 00	Common	None	None	Locomotive repairs.
Loss of right eye,	Male	35	39	Pass. car Repr.,	Pass. car Rep.,	Good	21 00	Common	None	Eye	All smith work on passenger and freight cars.
Loss of sight (left eye),	Male	3	43	Car repairer,	Pass. car Rep.,	Good	21 00	Common	None	None	Car repairs.
Stiff finger (right hand),	Male	10	39	Laborer,	Fire eleaner,	Good	25 20	Common	None	None	Cleans locomotive fires.
Hernia (left side),	Male	25	33	Mach. helper,	Machinist,	Good	45 78	Common	None	Noue	Locomotive repairs.
Sprained back,	Male	17	43	Mach. Appr.,	Air Brk. Insp.,	Good	59 00	Common	None	Belt	Locomotive repairs.
Little finger right hand stiff at first joint, arm stiff at elbow,	Male	20	66	Machinist,	Machinist,	Good	33 39	Common	None	None	Locomotive repairs.
Leg frozen between ankle and knee,	Male	62	70	Laborer,	Laborer,	Good	15 00	Common	None	None	
Hernia (left side),	Male	53	66	Boiler Insp.,	Boiler Insp.,	Good	35 28	Common	None	Truss	Locomotive repairs.
Hernia (left side),	Male	54	55	Staty. engineman,	Staty. Engmn.,	Good	32 00	Common	None	None	Stationary engineman.
Left foot off but heel,	Male	16	71	Student,	Eng. watchman,	Good	24 36	Common	None	Foot	Firing boilers.
Thumb left hand stiff,	Male	61	64	Machinist,	Machinist,	Good	28 00	Common	None	None	Locomotive repairs.
Appendicitis,	Male	18	21	Engine wiper,	Mach. helper,	Good	26 31	Common	None	Belt,	Locomotive repairs.
Hernia (right side),	Male	24	33	Laborer,	Flue eleaner,	Good	22 33	Common	None	Truss	Locomotive repairs.
Second and third fingers off, left hand,	Male	19	22	Laborer,	Flue eleaner,	Good	22 33	Common	None	None	Locomotive repairs.
Forefinger, left hand off,	Male	40	45	Driver,	Laborer,	Good	15 00	Common	None	None	
Hernia (right side),	Male	11	29	Laborer,	Laborer,	Good	15 00	Common	None	Truss	
Blind (left eye),	Male	26	28	Tender Repr.,	Tender Repr.,	Good	32 00	Common	None	None	Locomotive repairs.
Club feet,	Male	Inf.	34	None,	Eng. wiper,	Good	16 94	Common	None	None	Clerical.
Hernia (left side),	Male	42	48	Laborer,	Laborer,	Good	15 00	Common	None	None	
Left foot stiff,	Male	14	20	Student,	Machinist,	Good	29 40	Common	None	None	Locomotive repairs.
Hernia,	Male	Inf.	20	Student,	Laborer,	Good	21 60	Common	None	None	
Second toe off, others stiff, left foot,	Male	21	63	Brakeman,	Laborer,	Good	15 00	Common	None	None	
Hernia (right side),	Male	30	31	Laborer,	Laborer,	Good	19 25	Common	None	None	

Nature of Disability.	Sex.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present weekly wage.	Education previous to injury.	Education or special training for present occupation.	What artificial appliance is used.	REMARKS. (Nature of work and any interesting features in case.)
Small and fore finger deformed, left hand off. --	Male	30	55	Eng. watchman. --	Eng. watchman,	Good	24 36	Common	None	None -----	Firing boilers.
Hernia (right side), -----	Male	6	41	Student, ----------	Boilermaker, --	Good	38 94	Common	None	None -----	Locomotive repairs.
Hernia (right side), -----	Male	45	57	Engineer, ---------	Mach. helper, --	Good	22 33	Common	None	Truss ----	Locomotive repairs.
Forefinger, right hand, off.	Male	59	65	Boilermaker. ------	Boilermaker, --	Good	28 00	Common	None	None -----	Locomotive repairs.
Hernia, ----------	Male	26	35	Boilermaker, ------	Boilermaker, --	Good	27 58	Common	None	None -----	Locomotive repairs.
Hernia, ----------	Male	16	22	Student, ----------	Boilerwasher, --	Good	22 96	Common	None	None -----	Locomotive repairs.
Injury to stomach, ------	Male	34	39	Hostler, ----------	Toolman, ------	Good	24 67	Common	None	None -----	Charge of toolroom.
Hernia (right side), -----	Male	25	40	Driver ----------	Laborer, -------	Good	15 00	Common	None	None -----	
Little finger stiff (right hand), ----------	Male	50	59	Machinist, --------	Machinist, -----	Good	33 35	Common	None	None -----	Locomotive repairs.
Leg off 3 inches below knee. ----------	Male	20	41	Brakeman, --------	Staty. fireman,	Good	21 00	Common	None	Leg ------	Firing boilers.
Left foot off, ----------	Male	24	51	Brakeman, --------	Hostler, -------	Good	34 16	Common	None	Foot -----	Locomotive repairs.
Blind (left eye), ----------	Male	25	37	Boilermaker, ------	Boilermaker, --	Good	45 00	Common	None	None -----	Locomotive repairs.
Right foot off, ----------	Male	18	29	Laborer, ----------	Motorman. ----	Good	22 00	Common	None	Foot -----	Turntable motorman.
Right leg off below knee,--	Male	46	62	Staty. fireman. ---	Motorman. ----	Good	22 00	Common	None	Leg ------	Turntable motorman.
Both legs off below knee,--	Male	27	35	Brakeman, --------	Laborer, -------	Good	22 00	Common	None	Legs -----	
Right leg off below knee,--	Male	19	33	Brakeman, --------	Pipe fitter, ----	Good	25 20	Common	None	Leg -----	
Leg above ankle, 4 inches.	Male	37	38	Brakeman. --------	Mach. helper, --	Good	21 56	Common	None	Leg -----	Locomotive repairs.
Blind (right eye), ---------	Male	37	38	Boilermaker. ------	Laborer, -------	Good	21 84	Common	None	Eye -----	Charge of tool room.
Blind (right eye), ---------	Male	22	29	Machinist, --------	Machinist, -----	Good	26 60	Common	None	None ----	Locomotive repairs.
Tuberculosis of left hip joint, ----------	Male	23	25	Boiler helper. ----	Laborer, -------	Good	21 00	Common	None	None -----	Charge of tool room.
Loss of right hand, ------	Male	29	53	Brakeman. --------	Staty. Engmn.,	Good	16 33	Common	None	None -----	Firing boilers and tending pumps.
Loss of right hand, ------	Male	19	48	Brakeman. --------	Staty. Engmn.,	Good	16 33	Common	None	None -----	Firing boilers and tending pumps.
Three fingers off (left hand). ----------	Male	25	41	Machinist. --------	Mech. draftsman.	Good	28 00	Common	None	None -----	Designing cars.
Hernia. ----------	Male	59	65	Hostler. ----------	Hostler, -------	Good	25 20	Common	None	Truss ----	Handling locomotives at engine house.
Loss of right leg at knee,--	Male	29	33	Cigar maker, -----	Mach. helper,--	Good	22 68	Common	None	Leg ------	Locomotive repairs.
Hernia. ----------	Male	14	22	Toolman, ---------	Boiler helper,---	Good	33 33	Common	None	None -----	Locomotive repairs.

Hernia,	Male	36	37	Machinist,	Machinist,	Good	34 56	Common	None	None	Locomotive repairs.
Heruia,	Male	34	35	Mach. helper,	Mach. helper,	Good	33 82	Common	None	Truss	Locomotive repairs.
Hernia,	Male	21	22	Laborer,	Laborer,	Good	22 68	Common	None	Truss	
Loss of fingers, one hand,	Male	19	28	Laborer,	Mach. helper,	Good	21 25	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	27	28	Mach. helper,	Laborer,	Good	22 68	Common	None	Eye	Foreman laborer.
Loss of hand at wrist,	Male	26	36	Hostler,	Machinist,	Good	33 60	Common	None	None	Locomotive inspector.
Loss of hand and both feet at instep,	Male	19	28	Laborer,	Toolman,	Good	40 57	Common	None	Feet and hand	Repairing shop tools.
Loss of fingers, one hand,	Male	26	44	Laborer,	Boilerwasher,	Good	31 66	None	None	None	Washing locomotive boilers.
Hernia,	Male	26	27	Car repairer,	Boiler helper,	Good	20 51	Common	None	Truss	Locomotive repairs.
Blind (one eye),	Male	19	29	Mach. helper,	Mach. helper,	Good	22 68	Common	None	Eye	Inspecting locomotives.
Blind (right eye),	Male	6	32	Student,	Boiler helper,	Good	25 00	Common	None	Eye	Locomotive repairs.
Loss of finger (one hand),	Male	16	21	Bridge builder,	Boiler helper,	Good	25 81	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	54	57	Boiler helper,	Boilermaker,	Good	42 28	Common	None	None	Locomotive repairs.
Loss of one hand at wrist,	Male	7	25	Student,	Mach. helper,	Good	15 40	Common	None	Hand	Clerical.
Loss of finger, one hand,	Male	18	47	Asst. foreman,	Foreman,	Good	44 34	Common	None	None	Supervising engine house.
Blind (one eye),	Male	41	44	Boiler Appr.,	Boilermaker,	Good	43 24	Common	None	None	Locomotive repairs.
Stiff finger joints (one hand),	Male	27	29	Mach. helper,	Machiuist,	Good	34 56	Common	None	None	Asst. foreman, machine shop.
Blind (one eye),	Male	36	41	Asst. foreman,	Foreman,	Good	38 97	Drexel Institute	None	Eye	Night foreman, engine house.
Blind (one eye),	Male	49	55	Watchman,	Toolman,	Good	25 75	Common	None	Eye	Handles engine crew supplies.
Loss of finger (one hand),	Male	51	58	Tank Inspr.,	Laborer,	Good	27 69	Common	None	None	Engine wiper foreman.
Loss of finger (one hand),	Male	24	40	Slag roofer,	Laborer,	Good	21 79	Common	None	None	
Loss of arm at shoulder,	Male	51	55	Boilermaker,	Watchman,	Good	20 12	Common	None	None	Watching gate entrance.
Loss of right leg below knee,	Male	30	41	Brakeman,	Motorman,	Good	24 94	Common	None	Leg	Turntable motorman.
Left arm at shoulder, and right leg at hip,	Male	23	34	Car inspector,	Clerk,	Good	19 00	Common	None	Leg	Clerical.
Hernia (right side),	Male	45	65	Laborer,	Laborer,	Good	16 24	Common	None	None	Repairing cars.
Blind (right eye),	Male	34	37	Car repairer,	Car repairer,	Good	14 84	Common	None	None	Repairing cars.
Stiff joints (right leg),	Male	53	68	Farmer,	Laborer,	Good	15 08	Common	None	None	
Hernia (right side),	Male	37	67	Farmer,	Laborer,	Good	15 08	Common	None	None	
Hernia (double),	Male	18	63	Weaver,	Laborer,	Good	15 08	Common	None	None	
Hernia (double),	Male	40	52	Clerk,	Laborer,	Good	15 08	Common	None	Truss	
Blind (right eye),	Male	49	52	Car repairer,	Car repairer,	Good	18 56	Common	None	None	Carpenter work.
Right hand crippled, one finger off,	Male	49	50	Car repairer,	Car repairer,	Good	16 24	Common	None	None	Repairing cars.
Left hand crippled,	Male	21	41	Blacksmith,	Blacksmith,	Good	19 72	Common	None	None	Repairing cars.
Hernia (left side),	Male	10	63	None,	Laborer,	Good	15 08	Common	None	Truss	
Hernia (right side),	Male	Inf.	28	None,	Car inspector,	Good	25 20	Common	None	Truss	Car inspecting.
Hernia (right side),	Male	37	38	Farmer,	Car inspector,	Good	25 20	Common	None	None	Car inspecting.
Hernia (right side),	Male	32	42	Fireman (Staty.),	Car inspector,	Good	25 20	Common	None	None	Car inspecting.
Hernia (right side),	Male	3	23	Clerk,	Car inspector,	Good	25 20	Common	None	None	Car inspecting.
Hernia (left side),	Male	33	36	Air Brk. Insp.,	Car inspector,	Good	26 88	Common	None	None	Car inspecting.

Nature of Disability.	Sex.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present weekly wage.	Education previous to injury.	Education or special training for present occupation.	What artificial appliance is used.	REMARKS. (Nature of work and any interesting features in case.)
Hernia (both sides),	Male	23	33	Farmer,	A. B. Insp helper.	Good	20 02	Common	None	None	Repairing cars.
Hernia (left side),	Male	33	38	Car repairer,	Car repairer,	Good	22 30	Common	None	Truss	Repairing cars.
Hernia (right side),	Male	39	47	Car repairer,	Car repairer,	Good	20 64	Common	None	None	Repairing cars.
Hernia (right side),	Male	29	31	Car repairer,	Car repairer,	Good	27 90	Common	None	Truss	Repairing cars.
Hernia (both sides),	Male	31	34	Car repairer,	Car repairer,	Good	23 43	Common	None	Truss	Repairing cars.
Hernia (left side),	Male	53	54	Car repairer,	Car repairer,	Good	16 62	Common	None	None	Repairing cars.
Hernia (right side),	Male	12	35	Student,	Car repairer,	Good	16 64	Common	None	Truss	Repairing cars.
Left arm stiff,	Male	12	44	Student,	Car repairer,	Good	17 36	Common	None	None	Operating air jack.
Left arm stiff,	Male	39	43	Carpenter,	Car repairer,	Good	18 60	Common	None	None	Repairing cars.
Weak back and right hand crippled,	Male	27	47	Laborer,	Laborer,	Good	16 12	Common	None	None	
Arm bent,	Male	21	28	Laborer,	Car repairer,	Good	20 22	Common	None	Noue	Repairing cars.
Arm bent,	Male	20	23	Auto Repr.,	Trailer,	Good	20 00	Common	None	None	Repairing cars.
Stiff wrist,	Male	43	57	Laborer,	Laborer,	Good	15 08	Common	None	None	
Short leg,	Male	48	60	Car repairer,	Car repairer,	Good	16 96	Common	Noue	None	Repairing cars.
Crooked leg,	Male	62	63	Staty. fireman,	Laborer,	Good	13 78	Common	None	None	
Enlarged elbow joint (one arm),	Male	8	61	Student,	Packer,	Good	22 00	Common	None	None	Packing journal boxes.
Left leg amputated below knee,	Male	31	48	Car repairer,	Piece work Insp.	Good	23 75	Common	None	Leg	
Left arm amputated above elbow,	Male	32	44	Car repairer,	Foreman,	Good	18 02	Common	None	None	Supervises painting cars.
Stiff leg,	Male	20	60	Laborer,	Black. helper,	Good	14 31	Common	None	None	Repairing cars.
Stiff leg,	Male	43	44	Car repairer,	Car repairer,	Good	18 47	Common	None	None	Repairing cars.
Stiff leg,	Male	14	51	Student,	Laborer,	Good	18 47	Common	None	None	
Stiff hand,	Male	34	59	Brakeman,	Black. helper,	Good	14 31	Common	None	Noue	Repairing cars.
Deaf (one ear),	Male	18	25	Fireman,	Packer,	Good	22 00	Common	Noue	None	Packing journal boxes.
Stiff fingers (one hand),	Male	56	58	Car repairer,	Car repairer,	Good	20 00	Common	None	None	Repairing cars.
Stiff fingers (one hand),	Male	18	30	Laborer,	Car inspector,	Good	24 00	Common	None	None	Inspecting cars.
Blind (one eye),	Male	42	50	None,	Car repairer,	Good	28 00	Common	None	None	Repairing cars.
Blind (one eye),	Male	Inf.	33	None,	Car repairer,	Good	28 00	Common	None	None	Repairing cars.
Loss of two fingers,	Male	23	34	Apprentice,	Machinist,	Good	29 50	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	25	45	Machinist,	Machinist,	Good	26 50	Common	None	None	Locomotive repairs.



Invalided Soldiers' Commission, Canada.

MECHANICAL DRAUGHTING OFFERS A FUTURE

Many returned men have had elementary training in draughting or in mechanical work where a knowledge of blue prints was necessary.

Invalided Soldiers' Commission, Canada.

A CLASS IN SURVEYING

Starting with a fair knowledge of mathematics, some returned soldiers prefer the wholesome outdoor work with level and transit instruments.

Blind (one eye),	Male	30	49	Machinist,	Machinist,	Good	34 50	Common	None	None		Locomotive repairs.
Stiff leg at knee,	Male	17	45	Apprentice,	Machinist,	Good	37 50	Common	None	None		Locomotive repairs.
Deaf (one ear),	Male	45	47	Machinist,	Machinist,	Good	36 50	Common	None	None		Locomotive repairs.
Hernia,	Male	30	36	Machinist,	Machinist,	Good	43 00	Common	None	Truss		Locomotive repairs.
Blind (one eye),	Male	23	31	Mach. helper,	Machinist,	Good	36 00	Common	None	None		Locomotive repairs.
Blind (one eye),	Male	40	65	Car repairer,	Laborer,	Good	15 00	Common	None	None		
Blind (one eye),	Male	18	38	Car repairer,	Car repairer,	Good	25 00	Common	None	None		Repairing cars.
Blind (one eye),	Male	55	59	Car repairer,	Car repairer,	Good	25 00	Common	None	None		Repairing cars.
Hernia,	Male	28	56	Car repairer,	Car repairer,	Good	20 00	Common	None	None		Repairing cars.
Fingers off (one hand),	Male	27	49	Blacksmith,	Blacksmith,	Good	18 55	Common	None	None		Repairing cars.
Fingers off (one hand),	Male	20	32	Laborer,	Car repairer,	Good	27 00	Common	None	None		Repairing cars.
Fingers off (one hand),	Male	1	25	None,	Car repairer,	Good	27 00	Common	None	None		Repairing cars.
Fingers off (one hand),	Male	34	48	Brakeman,	Car repairer,	Good	19 00	Common	None	None		Repairing cars.
Fingers off (one hand),	Male	31	40	Car repairer,	Car repairer,	Good	23 00	Common	None	None		Repairing cars.
Fingers off (one hand),	Male	41	49	Mill hand,	Mill hand,	Good	19 50	Common	None	None		Repairing cars.
Fingers off (one hand),	Male	30	60	Brakeman,	Laborer,	Good	14 50	Common	None	None		Foreman.
Fingers off (one hand),	Male	35	53	Brakeman,	Car repairer,	Good	30 00	Common	None	None		
Fingers off (one hand),	Male	18	50	Teamster,	Laborer,	Good	23 75	Common	None	None		
Fingers off (one hand),	Male	27	63	Brakeman,	Laborer,	Good	14 50	Common	None	None		Inspecting cars.
Fingers off (one hand),	Male	26	61	Teamster,	Car Inspr.,	Good	24 00	Common	None	None		Inspecting cars.
Fingers off (one hand),	Male	4	26	None,	Car Inspr.,	Good	24 00	Common	None	None		
Second finger left hand, stiff,	Male	48	66	Laborer,	Laborer,	Good	16 12	Common	None	None		Operating circular saw.
First finger left hand, stiff,	Male	18	19	Laborer,	Laborer,	Good	16 12	Common	None	None		Repairing cars.
First finger left hand, stiff,	Male	56	62	Carpenter,	Car repairer,	Good	19 84	Common	None	None		Repairing cars.
Thumb left hand, stiff,	Male	27	35	Car repairer,	Car repairer,	Good	18 60	Common	None	None		Repairing cars.
Little finger left hand, stiff,	Male	38	48	Farmer,	Car repairer,	Good	18 60	Common	None	None		Repairing cars.
Second finger left hand, stiff,	Male	27	58	Carpenter,	Car repairer,	Good	18 60	Common	None	None		Repairing cars.
Small finger left hand, off,	Male	21	34	Laborer,	Car repairer,	Good	17 36	Common	None	None		Repairing cars.
Top of left thumb removed,	Male	11	43	Farmer,	Car repairer,	Good	18 60	Common	None	None		Repairing cars.
Index finger right hand removed,	Male	22	69	Brakeman,	Black. helper,	Good	16 74	Common	None	None		
Third finger left hand removed,	Male	26	56	Laborer,	Laborer,	Good	16 12	Common	None	None		
Thumb on left hand removed,	Male	20	38	Mach. helper,	Furnaceman,	Good	20 46	Common	None	None		Straightening heated iron.
Thumb on left hand removed,	Male	50	63	Car repairer,	Painter,	Good	19 22	Common	None	None		Freight cars.
First finger right hand removed, and little toe right foot,	Male	21	24	Laborer,	Laborer,	Good	16 12	Common	None	None		
Little finger right hand removed, left hand and wrist stiff,	Male	23	52	Brakeman,	Car repairer,	Good	18 60	Common	None	None		Repairing cars.

Nature of Disability.	Sex.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present weekly wage.	Education previous to injury.	Education or special training for present occupation.	What artificial appliance is used.	REMARKS. (Nature of work and any interesting features in case.)
Left leg removed 5 inches from thigh,	Male	53	59	Car repairer,	Laborer.	Good	16 12	Common	None	Leg	Threading bolts by machine.
Legs crushed,	Male	34	57	Laborer,	Black. helper.	Good	16 74	Common	None	None	
Middle toe left foot removed,	Male	12	60	Laborer,	Laborer,	Good	16 12	Common	None	None	
Third toe left foot removed, right eye very weak.	Male	5	37	None,	Car inspector,	Good	18 60	Common	None	None	Inspecting cars.
Right foot stiff,	Male	28	35	Car repairer,	Car repairer,	Good	18 60	Common	None	None	Repairing cars.
Hernia,	Male	55	56	Car repairer,	Car repairer.	Good	17 36	Common	None	None	Repairing cars.
Hernia,	Male	Inf.	32	None.	Black. helper,	Good	16 74	Common	None	None	
Middle finger left hand removed.	Male	31	62	Painter,	Car repairer.	Good	17 36	Common	None	None	Repairing cars.
Poor hearing,	Male	3	25	None,	Laborer,	Good	16 12	Common	None	None	Repairing cars.
Left eye removed,	Male	23	45	Brakeman,	Car repairer.	Good	17 36	Common	None	Eye	Repairing cars.
Right eye removed.	Male	42	55	Laborer.	Car repairer.	Good	17 36	Common	None	Eye	Repairing cars.
Weak eyes,	Male	49	53	Tinsmith.	Tinsmith,	Good	19 84	Common	None	None	Repairing car roofing.
Right eye weak,	Male	36	48	Car repairer,	Car repairer.	Good	17 36	Common	None	None	Inspecting and fitting journal bearings.
Partially blind (right eye),	Male	29	43	Black. helper,	Black. helper,	Good	14 25	Common	None	None	
Blind (right eye),	Male	48	57	Blacksmith.	Blacksmith,	Good	17 75	Common	None	None	General.
Loss of right arm above elbow,	Male	31	35	Machinist,	Clerk.	Good	14 00	Common	None	None	
Blind (left eye),	Male	6	67	None.	Upholsterer,	Good	17 00	Common	None	None	General.
Deaf, dumb and blind (right eye).	Male	4	58	None.	Pass. car Rep.,	Good	16 50	Common	None	None	
Blind (right eye),	Male	53	68	Pass. car. Repr.,	Pass. car Rep.,	Good	16 50	Common	None	None	Carpentering, bench work.
Tendons in right forearm cut.	Male	49	52	Mill hand,	Pass. car Rep.,	Good	17 00	Common	None	None	Material stocker.
Blind (left eye),	Male	47	49	Pass. car Repr.,	Pass. car Rep.,	Good	17 00	Common	None	None	
Blind (right eye),	Male	29	49	Pass. car Repr.,	Pass. car Rep.,	Good	20 00	Common	None	Eye	
Partially blind (right eye),	Male	10	51	Student.	Laborer.	Good	15 00	Common	None	None	
Blind (right eye),	Male	36	48	Roller,	Laborer.	Good	13 25	Common	None	None	
Blind (right eye),	Male	Inf.	47	None,	Laborer,	Good	16 25	Common	None	None	

Blind (left eye),	Male	35	65	Tinsmith,	Tinsmith,	Good	15 00	Common	None	Eye	
Blind (right eye),	Male	20	30	Steel car Repr.,	Car repairer,	Good	16 00	Common	None	None	Material stocker.
Blind (left eye),	Male	55	64	Coal miner,	Laborer,	Good	13 00	Common	None	None	
Blind (left eye),	Male	36	40	Car repairer,	Car repairer,	Good	16 00	Common	None	Eye	Car repairing.
Blind (left eye),	Male	21	30	Car repairer,	Car repairer,	Good	16 50	Common	None	Eye	Car repairing.
Blind (right eye),	Male	27	61	Car repairer,	Car repairer,	Good	16 50	Common	None	Eye	Carpenter, bench work.
Right leg off above knee,	Male	53	57	Laborer,	Laborer,	Good	13 20	Common	None	Leg	
Blind (right eye),	Male	31	64	Mill hand,	Foreman,	Good	27 70	Common	None	None	Foreman over mill hands.
Blind (left eye),	Male	41	45	Mill hand,	Mill hand,	Good	21 00	Common	None	None	Operating cross-cut saw.
Loss of four toes and a part of left foot,	Male	17	29	Laborer,	Piece work Insp.	Good	20 75	Common	None	None	Clerical.
Right leg off at knee,	Male	23	61	Boatman,	Watchman,	Good	19 62	Common	None	Leg	
Loss of all toes and part of left foot,	Male	20	46	Brakeman,	Watchman,	Good	19 32	Common	None	Padded shoe.	
Loss of fingers, left hand,	Male	21	67	Painter,	Painter,	Good	17 00	Common	None	None	
Blind (right eye),	Male	15	58	Laborer,	Mill hand,	Good	18 00	Common	None	None	Repairing belts.
Blind (one eye),	Male	55	65	Tender Repr.,	Tender Repr.,	Good	31 50	Common	None	None	Repairing tenders.
Hernia,	Male	35	37	Tender Repr.,	Tender Repr.,	Good	24 00	Common	None	Truss	Repairing tenders.
Stiff finger,	Male	16	25	Rivet heater,	Tender Repr.,	Good	25 00	Common	None	None	Repairing tenders.
Stiff finger,	Male	35	40	Tender Repr.,	Tender Repr.,	Good	33 50	Common	None	None	Repairing tenders.
Hernia,	Male	42	46	Tender Repr.,	Tender Repr.,	Good	29 50	Common	None	Truss	Repairing tenders.
Hernia,	Male	52	69	Boilermaker,	Tender Repr.,	Good	25 00	Common	None	None	Repairing tenders.
Hernia,	Male	33	40	Tender Repr.,	Tender Repr.,	Good	24 50	Common	None	Truss	Repairing tenders.
Loss of finger,	Male	19	19	Flanger,	Tender Repr.,	Good	28 00	Common	None	None	Repairing tenders.
Hernia,	Male	61	61	Tender Repr.,	Tender Repr.,	Good	34 50	Common	None	Truss	Repairing tenders.
Hernia,	Male	5	26	None,	Tender Repr.,	Good	28 00	Common	None	None	Repairing tenders.
Stiff finger,	Male	24	25	Tender Repr.,	Tender Repr.,	Good	30 00	Common	None	None	Repairing tenders.
Hernia,	Male	44	56	Tender Repr.,	Tender Repr.,	Good	27 00	Common	None	None	Repairing tenders.
Deaf, one ear,	Male	2	20	None,	Steel car Repr.,	Good	20 00	Common	None	None	Repairing steel cars.
Loss of 3 fingers,	Male	3	24	None,	Steel car Repr.,	Good	16 50	Common	None	None	Repairing steel cars.
Hernia,	Male	17	29	Apprentice,	Tender Repr.,	Good	24 50	Common	None	Truss	Repairing tenders.
Blind (one eye),	Male	34	48	Boilermaker,	Steel car Repr.,	Good	33 50	Common	None	None	Repairing steel cars.
Deaf (one ear),	Male	22	27	Steel car Repr.,	Steel car Repr.,	Good	25 00	Common	None	None	Repairing steel cars.
Loss of 2 fingers,	Male	13	44	Laborer,	Steel car Repr.,	Good	43 50	Common	None	None	Repairing steel cars.
Loss of 2 fingers,	Male	17	38	Butcher,	Steel car Repr.,	Good	23 50	Common	None	None	Repairing steel cars.
Blind (one eye),	Male	19	23	Steel car Repr.,	Steel car Repr.,	Good	31 00	Common	None	None	Repairing steel cars.
Loss of 1 finger,	Male	9	23	Student,	Steel car Repr.,	Good	26 50	Common	None	None	Repairing steel cars.
Loss of 1 finger,	Male	21	39	Soldier,	Steel car Repr.,	Good	27 00	Common	None	None	Repairing steel cars.
Deaf (one ear),	Male	18	66	Rivet heater,	Steel car Repr.,	Good	15 00	Common	None	None	Repairing steel cars.
Loss of 1 finger,	Male	31	43	Steel car Repr.,	Steel car Repr.,	Good	38 50	Common	None	None	Repairing steel cars.
Hernia,	Male	27	29	Mach. helper,	Machinist,	Good	52 00	Common	None	Truss	Locomotive repairs.
Loss of two fingers,	Male	29	42	Apprentice,	Machinist,	Good	30 50	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	Inf.	42	None,	Machinist,	Good	30 50	Common	None	None	Locomotive repairs.
Hernia,	Male	52	53	Machinist,	Machinist,	Good	38 00	Common	None	None	Locomotive repairs.
Loss of finger,	Male	24	29	Machinist,	Machinist,	Good	46 00	Common	None	None	Locomotive repairs.
Hernia,	Male	38	40	Steel car Repr.,	Steel car Repr.,	Good	32 50	Common	None	None	Repairing steel cars.
Blind (one eye),	Male	36	40	Steel car Repr.,	Steel car Repr.,	Good	32 50	Common	None	None	Repairing steel cars.
Hernia,	Male	Inf.	39	None,	Steel car Repr.,	Good	27 00	Common	None	Truss	Repairing steel cars.
Blind (one eye),	Male	26	31	Steel car Repr.,	Steel car Repr.,	Good	24 50	Common	None	None	Repairing steel cars.

Nature of Disability.	Sex.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present weekly wage.	Education previous to injury.	Education or special training for present occupation.	What artificial appliance is used.	REMARKS. (Nature of work and any interesting features in case.)
Partial loss of foot,	Male	18	41	None,	Steel car Repr.,	Good	34 00	Common	None	None	Repairing steel cars.
Hernia,	Male	18	24	Steel car Repr.,	Steel car Repr.,	Good	26 50	Common	None	Truss	Repairing steel cars.
Hernia,	Male	36	42	Steel car Repr.,	Steel car Repr.,	Good	32 50	Common	None	Truss	Repairing steel cars.
Blind (one eye),	Male	33	37	Steel car Repr.,	Steel car Repr.,	Good	45 00	Common	None	None	Repairing steel cars.
Deaf (one ear),	Male	35	38	Teacher,	Steel car Repr.,	Good	23 50	Common	None	None	Repairing steel cars.
Stiff finger,	Male	28	40	Laborer,	Steel car Repr.,	Good	22 00	Common	None	None	Repairing steel cars.
Hernia,	Male	27	33	Steel car Repr.,	Steel car Repr.,	Good	42 00	Common	None	Truss	Repairing steel cars.
Stiff leg at hip,	Male	18	33	Farming,	Driller,	Good	24 00	Common	None	None	Drill press.
Hernia,	Male	47	49	Painter,	Painter,	Good	20 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	60	60	Painter,	Painter,	Good	25 00	Common	None	Truss	Locomotive repairs.
Stiff leg at ankle,	Male	38	42	Mach. helper,	Driller,	Good	23 50	Common	None	None	Drill press.
Blind (one eye),	Male	34	39	Driller,	Driller,	Good	28 00	Common	None	None	Drill press.
Hernia,	Male	24	29	Brakeman,	Driller,	Good	16 00	Common	None	None	Drill press.
Loss of two fingers,	Male	38	41	Mach. helper,	Driller,	Good	24 50	Common	None	None	Drill press.
Stiff arm at wrist,	Male	3	41	None,	Driller,	Good	31 00	Common	None	None	Drill press.
Hernia,	Male	27	45	Driller,	Driller,	Good	41 00	Common	None	Truss	Drill press.
Hernia,	Male	30	38	Sheetsmith,	Sheetsmith,	Good	20 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	34	41	Boiler helper,	Sheetsmith,	Good	22 00	Common	None	Truss	Locomotive repairs.
Loss of finger,	Male	31	39	Tender Repr.,	Driller,	Good	22 50	Common	None	None	Drill press.
Hernia,	Male	9	23	Student,	Sheetsmith,	Good	26 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	29	33	Sheetsmith,	Sheetsmith,	Good	31 50	Common	None	Truss	Locomotive repairs.
Loss of two fingers,	Male	13	65	Student,	Sheetsmith,	Good	27 00	Common	None	None	Locomotive repairs.
Hernia,	Male	18	25	Sheetsmith,	Sheetsmith,	Good	28 00	Common	None	Truss	Locomotive repairs.
Loss of one finger,	Male	15	25	Student,	Sheetsmith,	Good	28 00	Common	None	None	Locomotive repairs.
Loss of one finger,	Male	23	32	Sheetsmith,	Sheetsmith,	Good	29 50	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	28	33	Sheetsmith,	Sheetsmith,	Good	28 50	Common	None	Eye	Locomotive repairs.
Blind (one eye),	Male	30	38	Sheetsmith,	Sheetsmith,	Good	24 50	Common	None	Eye	Locomotive repairs.
Blind (one eye),	Male	21	25	Sheetsmith,	Sheetsmith,	Good	23 00	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	20	25	Molder helper,	Molder,	Good	22 00	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	33	37	Boilermaker,	Sheetsmith,	Good	30 00	Common	None	None	Locomotive repairs.
Hernia,	Male	32	39	Molder helper,	Molder,	Good	19 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	28	43	Molder,	Molder,	Good	35 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	39	40	Molder,	Molder,	Good	35 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	20	23	Molder helper,	Molder,	Good	22 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	58	66	Molder,	Molder,	Good	31 00	Common	None	Truss	Locomotive repairs.

Hernia,	Male	35	43	Molder,	Molder,	Good	39 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	40	42	Molder,	Molder,	Good	36 00	Common	None	Truss	Locomotive repairs.
Both wrists and arm stiff,	Male	40	47	Molder helper,	Molder,	Good	27 00	Common	None	None	Locomotive repairs.
Stiff arm at elbow,	Male	51	54	Molder,	Molder,	Good	27 00	Common	None	None	Locomotive repairs.
Both wrists and arm stiff,	Male	55	58	Molder helper,	Molder,	Good	21 50	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	40	45	Molder,	Molder,	Good	24 50	Common	None	None	Locomotive repairs.
Hernia,	Male	35	41	Molder,	Molder,	Good	30 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	35	51	Molder,	Molder,	Good	27 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	10	48	Student,	Molder,	Good	26 00	Common	None	Truss	Locomotive repairs.
Stiff knee,	Male	44	58	Molder,	Molder,	Good	18 00	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	62	68	Molder,	Molder,	Good	16 50	Common	None	None	Locomotive repairs.
Two stiff fingers,	Male	32	40	Flanger,	Boler helper,	Good	25 00	Common	None	None	Locomotive repairs.
Stiff leg at knee,	Male	17	34	Brakeman,	Boiler helper,	Good	32 00	Common	None	None	Locomotive repairs.
Hernia,	Male	50	50	Molder,	Molder,	Good	33 50	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	10	29	Student,	Boiler helper,	Good	20 00	Common	None	Eye	Locomotive repairs.
Blind (one eye),	Male	10	25	Student,	Boiler helper,	Good	22 50	Common	None	None	Locomotive repairs.
Stiff finger,	Male	28	41	Flanger,	Boiler helper,	Good	28 00	Common	None	None	Locomotive repairs.
Stiff finger,	Male	18	39	Laborer,	Boiler helper,	Good	34 00	Common	None	None	Locomotive repairs.
Loss of one finger,	Male	19	45	Electrician,	Boiler helper,	Good	26 50	Common	None	None	Locomotive repairs.
Stiff arm at elbow,	Male	27	30	Boiler helper,	Boiler helper,	Good	25 50	Common	None	None	Locomotive repairs.
Loss of finger,	Male	17	34	Student,	Boiler helper,	Good	26 50	Common	None	None	Locomotive repairs.
Three stiff fingers,	Male	33	42	Steel car Repr.,	Boiler helper,	Good	23 00	Common	None	None	Locomotive repairs.
Hernia,	Male	26	38	Laborer,	Boiler helper,	Good	32 00	Common	None	Truss	Locomotive repairs.
Blind (one eye),	Male	37	51	Boilermaker,	Boilermaker,	Good	41 50	Common	None	Eye	Locomotive repairs.
Loss of finger,	Male	17	27	Apprentice,	Boilermaker,	Good	36 00	Common	None	None	Locomotive repairs.
Hernia,	Male	35	46	Boilermaker,	Boilermaker,	Good	32 50	Common	None	Truss	Locomotive repairs.
Blind (one eye),	Male	30	33	Apprentice,	Boilermaker,	Good	33 50	Common	None	None	Locomotive repairs.
Deaf (one ear),	Male	30	60	Boilermaker,	Boilermaker,	Good	30 50	Common	None	None	Locomotive repairs.
Stiff finger,	Male	19	38	Pipe cutter,	Boilermaker,	Good	38 50	Common	None	None	Locomotive repairs.
Hernia,	Male	30	41	Carpenter,	Carpenter,	Good	32 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	30	38	Carpenter,	Carpenter,	Good	30 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	28	36	Carpenter,	Carpenter,	Good	36 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	18	30	Apprentice,	Carpenter,	Good	33 00	Common	None	None	Locomotive repairs.
Hernia,	Male	46	47	Carpenter,	Carpenter,	Good	34 50	Common	None	Truss	Locomotive repairs.
Blind (one eye),	Male	Inf.	43	None.	Carpenter,	Good	29 50	Common	None	None	Locomotive repairs.
Loss of finger,	Male	22	44	Carpenter,	Carpenter,	Good	33 00	Common	None	None	Locomotive repairs.
Hernia,	Male	55	60	Carpenter,	Carpenter,	Good	18 00	Common	None	Truss	Locomotive repairs.
No bone between elbow and shoulder,	Male	46	60	Carpenter,	Carpenter,	Good	18 00	Common	None	None	Locomotive repairs.
Loss of finger,	Male	9	43	Student,	Black. helper,	Good	23 50	Common	None	None	Locomotive repairs.
Stiff foot at ankle,	Male	17	27	Teamster,	Black. helper,	Good	25 00	Common	None	Shoe	Locomotive repairs.
Hernia,	Male	52	57	Staty. Fireman,	Black. helper,	Good	25 50	Common	None	Truss	Locomotive repairs.
Deaf (one ear),	Male	8	32	Student,	Black. helper,	Good	30 50	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	25	36	Blacksmith,	Black. helper,	Good	34 00	Common	None	None	Locomotive repairs.
Hernia,	Male	23	43	Black. helper,	Black. helper,	Good	23 50	Common	None	None	Locomotive repairs.
Stiff finger,	Male	33	34	Blacksmith,	Blacksmith,	Good	57 00	Common	None	None	Locomotive repairs.
Hernia,	Male	65	66	Blacksmith,	Blacksmith,	Good	21 00	Common	None	Truss	Locomotive repairs.
Loss of finger,	Male	32	38	Black. helper,	Black. helper,	Good	23 50	Common	None	None	Locomotive repairs.
Blind (one eye),	Male	11	46	Student,	Blacksmith,	Good	31 50	Common	None	None	Locomotive repairs.
Leg stiff at hip,	Male	19	46	Apprentice,	Blacksmith,	Good	31 50	Common	None	None	Locomotive repairs.
Hernia,	Male	14	54	Student,	Blacksmith,	Good	42 00	Common	None	Truss	Locomotive repairs.

Nature of Disability.	Sex.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present weekly wage.	Education previous to injury.	Education or special training for present occupation.	What artificial appliance is used.	REMARKS. (Nature of work and any interesting features in case.)
Hernia,	Male	16	46	Farmer,	Blacksmith,	Good	29 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	55	68	Blacksmith,	Blacksmith,	Good	36 50	Common	None	Truss	Locomotive repairs.
Loss of three fingers,	Male	40	50	Blacksmith,	Blacksmith,	Good	23 50	Common	None	None	Locomotive repairs.
Loss of finger,	Male	39	42	Blacksmith,	Blacksmith,	Good	54 00	Common	None	None	Locomotive repairs.
Hernia,	Male	32	39	Black. helper,	Blacksmith,	Good	34 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	47	61	Blacksmith,	Blacksmith,	Good	37 00	Common	None	Truss	Locomotive repairs.
Blind (one eye),	Male	49	57	Blacksmith,	Blacksmith,	Good	38 00	Common	None	Eye	Locomotive repairs.
Loss of three fingers,	Male	41	52	Blacksmith,	Blacksmith,	Good	32 50	Common	None	None	Locomotive repairs.
Stiff finger,	Male	8	36	Student,	Blacksmith,	Good	25 50	Common	None	None	Locomotive repairs.
Hernia,	Male	27	38	Blacksmith,	Blacksmith,	Good	44 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	48	57	Blacksmith,	Blacksmith,	Good	35 50	Common	None	Truss	Locomotive repairs.
Loss of finger.	Male	2	36	None,	Laborer,	Good	25 00	Common	None	None	Locomotive repairs.
Hernia,	Male	18	35	Apprentice,	Laborer,	Good	22 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	43	58	Laborer,	Laborer,	Good	31 00	Common	None	Truss	
Stiff leg at knee,	Male	17	17	Laborer,	Laborer,	Good	24 00	Common	None	None	
Stiff arm at wrist,	Male	13	28	Rope twister,	Laborer,	Good	21 00	Common	None	None	
Hernia,	Male	33	61	Tender Repr.,	Laborer,	Good	22 50	Common	None	Truss	
Loss of finger,	Male	22	57	Brakeman,	Laborer,	Good	22 00	Common	None	None	
Stiff arm at elbow,	Male	9	58	Student,	Laborer,	Good	19 00	Common	None	None	
Hernia,	Male	25	67	Laborer,	Laborer,	Good	20 00	Common	None	Truss	
Hernia,	Male	38	45	Laborer,	Laborer,	Good	23 00	Common	None	Truss	
Deaf (both ears),	Male	27	63	Conductor,	Laborer,	Good	22 00	Common	None	Phone	
Loss of finger,	Male	49	63	Staty. Engr.,	Laborer,	Good	22 00	Common	None	None	
Deaf (both ears).	Male	2	50	None,	Laborer,	Good	22 00	Common	None	Phone	
Blind (one eye),	Male	Inf.	43	None,	Laborer,	Good	25 50	Common	None	None	
Deaf (one ear).	Male	27	32	Driver,	Laborer,	Good	16 50	Common	None	None	
Blind (one eye).	Male	7	50	Student,	Laborer,	Good	23 50	Common	None	None	
Hernia, stiff arm at wrist,	Male	52	53	Laborer,	Laborer,	Good	25 00	Common	None	Truss	
Hernia,	Male	30	45	Laborer,	Laborer,	Good	20 00	Common	None	None	
Hernia,	Male	24	29	Laborer,	Laborer,	Good	20 50	Common	None	Truss	
Hernia,	Male	37	38	Laborer,	Laborer,	Good	32 00	Common	None	Truss	
Loss of finger,	Male	5	44	None,	Laborer,	Good	22 00	Common	None	None	
Stiff arm at elbow,	Male	3	26	None,	Laborer,	Good	23 00	Common	None	None	
Loss of finger,	Male	53	56	Laborer,	Laborer,	Good	23 00	Common	None	None	
Loss of two fingers,	Male	52	63	Hammerman,	Laborer,	Good	23 00	Common	None	None	

Stiff leg at ankle.	Male	14	34	Farmer,	Mach. helper,	Good	25 00	Common	None	None	Locomotive	repairs.
Hernia,	Male	44	52	Laborer,	Laborer.	Good	32 00	Common	None	Truss	Locomotive	repairs.
Hernia,	Male	19	30	Farmer,	Laborer,	Good	30 50	Common	None	Truss	Locomotive	repairs.
Deaf (one ear).	Male	34	64	Mach. helper,	Mach. helper,	Good	20 00	Common	None	None	Locomotive	repairs.
Hernia,	Male	48	49	Mach. helper,	Mach. helper,	Good	30 50	Common	None	Truss	Locomotive	repairs.
Hernia,	Male	25	27	Mach. helper,	Mach. helper,	Good	16 50	Common	None	Truss	Locomotive	repairs.
Hernia,	Male	28	57	Mach. helper,	Mach. helper,	Good	29 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	34	48	Grinder,	Mach. helper,	Good	22 00	Common	None	None	Locomotive	repairs.
Hernia,	Male	21	36	Laborer,	Mach. helper,	Good	21 00	Common	None	Truss	Locomotive	repairs.
Loss of finger,	Male	21	35	Laborer,	Mach. helper,	Good	25 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	39	61	Laborer,	Mach. helper,	Good	19 50	Common	None	Truss	Locomotive	repairs.
Stiff finger,	Male	15	23	Farmer,	Mach. helper,	Good	26 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	16	29	Student,	Mach. helper,	Good	34 50	Common	None	Truss	Locomotive	repairs.
Hernia,	Male	20	24	Mill hand,	Mach. helper,	Good	24 00	Common	None	None	Locomotive	repairs.
Stiff finger,	Male	42	44	Laborer,	Mach. helper,	Good	27 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	24	24	Mach. helper,	Mach. helper,	Good	18 00	Common	None	None	Locomotive	repairs.
Stiff arm at wrist.	Male	19	20	Mach. helper,	Mach. helper,	Good	15 00	Common	None	None	Locomotive	repairs.
Hernia, blind (one eye),	Male	23	29	Mach. helper,	Mach. helper,	Good	38 00	Common	None	None	Locomotive	repairs.
Hernia,	Male	24	29	Steel car Repr.,	Mach. helper,	Good	24 00	Common	None	Truss	Locomotive	repairs.
Hernia,	Male	22	34	Tank repairer,	Mach. helper,	Good	23 00	Common	None	Truss	Locomotive	repairs.
Blind (one eye).	Male	19	35	Apprentice,	Machinist.	Good	25 50	Common	None	None	Locomotive	repairs.
Blind (one eye),	Male	22	34	Machinist,	Machinist,	Good	33 50	Common	None	None	Locomotive	repairs.
Blind (one eye).	Male	3	30	None.	Machinist.	Good	26 50	Common	None	None	Locomotive	repairs.
Stiff leg at knee.	Male	21	30	Apprentice.	Machinist.	Good	35 50	Common	None	None	Locomotive	repairs.
Loss of finger,	Male	24	52	Machinist,	Machinist,	Good	37 50	Common	None	None	Locomotive	repairs.
Loss of finger,	Male	2	33	None,	Machinist,	Good	22 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	19	23	Apprentice,	Machinist,	Good	32 50	Common	None	Truss	Locomotive	repairs.
Hernia,	Male	34	37	Machinist,	Machinist,	Good	32 50	Common	None	Truss	Locomotive	repairs.
Stiff wrist joint.	Male	44	46	Machinist.	Machinist,	Good	32 00	Common	None	None	Locomotive	repairs.
Loss of finger,	Male	28	35	Machinist,	Machinist,	Good	44 00	Common	None	None	Locomotive	repairs.
Blind (one eye).	Male	16	62	Student,	Machinist.	Good	36 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	18	21	Apprentice.	Machinist,	Good	20 00	Common	None	Truss	Locomotive	repairs.
Hernia,	Male	21	60	Machinist,	Machinist,	Good	29 50	Common	None	Truss	Locomotive	repairs.
Hernia,	Male	27	28	Machinist.	Machinist.	Good	27 50	Common	None	Truss	Locomotive	repairs.
Loss of finger,	Male	20	46	Apprentice,	Machinist.	Good	34 00	Common	None	None	Locomotive	repairs.
Stiff wrist joint,	Male	13	47	Student,	Machinist.	Good	27 50	Common	None	None	Locomotive	repairs.
Loss of two fingers,	Male	Inf.	29	None.	Machinist,	Good	39 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	27	32	Machinist.	Machinist,	Good	41 00	Common	None	None	Locomotive	repairs.
Loss of finger,	Male	14	38	Student,	Machinist,	Good	31 50	Common	None	None	Locomotive	repairs.
Loss of finger.	Male	21	34	Apprentice,	Machinist.	Good	34 00	Common	None	None	Locomotive	repairs.
One finger off, blind (one eye),	Male	24	28	Machinist.	Machinist,	Good	35 00	Common	None	None	Locomotive	repairs.
Stiff finger.	Male	45	50	Machinist.	Machinist,	Good	45 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	8	24	Student,	Machinist,	Good	22 00	Common	None	Supporter	Locomotive	repairs.
Loss of finger,	Male	37	50	Machinist.	Machinist,	Good	30 50	Common	None	None	Locomotive	repairs.
Hernia,	Male	50	62	Machinist.	Machinist.	Good	34 00	Common	None	None	Locomotive	repairs.
Hernia.	Male	28	28	Machinist,	Machinist.	Good	35 00	Common	None	None	Locomotive	repairs.
Blind (one eye).	Male	25	26	Machinist,	Machinist.	Good	35 50	Common	None	None	Locomotive	repairs.
Stiff finger,	Male	12	38	Student,	Machinist.	Good	39 50	Common	None	None	Locomotive	repairs.
Blind (one eye),	Male	13	39	Student.	Machinist.	Good	40 00	Common	None	None	Locomotive	repairs.
Hernia.	Male	24	25	Machinist,	Machinist.	Good	27 00	Common	None	None	Locomotive	repairs.

Nature of Disability.	Sex.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present weekly wage.	Education previous to injury.	Education or special training for present occupation.	What artificial appliance is used.	REMARKS (Nature of work and any interesting features in case.)
Stiff finger,	Male	23	26	Jackup-man,	Machinist,	Good	31 00	Common	None	None	Locomotive repairs.
Hernia,	Male	35	50	Machinist,	Machinist,	Good	25 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	32	33	Mach. helper,	Machinist,	Good	38 50	Common	None	Truss	Locomotive repairs.
Loss of leg at knee,	Male	36	50	Brakeman,	Machinist,	Good	38 50	Common	None	Leg	Locomotive repairs.
Loss of finger,	Male	35	41	Machinist,	Machinist,	Good	25 50	Common	None	None	Locomotive repairs.
Loss of finger,	Male	23	28	Machinist,	Machinist,	Good	42 00	Common	None	None	Locomotive repairs.
Stiff finger,	Male	29	59	Machinist,	Machinist,	Good	36 00	Common	None	None	Locomotive repairs.
Hernia,	Male	18	29	Miner,	Machinist,	Good	30 00	Common	None	Truss	Locomotive repairs.
Loss of finger,	Male	20	58	Apprentice,	Machinist,	Good	34 50	Common	None	None	Locomotive repairs.
Loss of finger,	Male	18	45	Apprentice,	Machinist,	Good	27 50	Common	None	None	Locomotive repairs.
Loss of finger,	Male	29	45	Machinist,	Machinist,	Good	23 50	Common	None	None	Locomotive repairs.
Stiff finger,	Male	22	24	Machinist,	Machinist,	Good	28 50	Common	None	None	Locomotive repairs.
Hernia,	Male	27	30	Machinist,	Machinist,	Good	44 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	17	27	Apprentice,	Machinist,	Good	27 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	55	57	Machinist,	Machinist,	Good	25 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	34	38	Machinist,	Machinist,	Good	25 50	Common	None	Truss	Locomotive repairs.
Blind (one eye),	Male	33	58	Machinist,	Machinist,	Good	31 50	Common	None	None	Locomotive repairs.
Stiff arm at elbow,	Male	58	60	Machinist,	Machinist,	Good	31 00	Common	None	None	Locomotive repairs.
Two fingers off, one stiff,	Male	20	29	Machinist,	Machinist,	Good	35 50	Common	None	None	Locomotive repairs.
Hernia,	Male	47	67	Machinist,	Machinist,	Good	34 50	Common	None	Truss	Locomotive repairs.
Blind (one eye),	Male	46	57	Machinist,	Machinist,	Good	33 50	Common	None	Eye	Locomotive repairs.
Hernia,	Male	49	69	Machinist,	Machinist,	Good	33 00	Common	None	Truss	Locomotive repairs.
Deaf (one ear),	Male	34	60	Machinist,	Machinist,	Good	30 00	Common	None	None	Locomotive repairs.
Stiff finger,	Male	35	51	Machinist,	Machinist,	Good	39 50	Common	None	None	Locomotive repairs.
Deaf (one ear),	Male	38	45	Machinist,	Machinist,	Good	29 50	Common	None	None	Locomotive repairs.
Hernia,	Male	36	64	Machinist,	Machinist,	Good	24 50	Common	None	Truss	Locomotive repairs.
Stiff wrist,	Male	68	69	Machinist,	Machinist,	Good	24 50	Common	None	None	Locomotive repairs.
Stiff wrist,	Male	23	43	Laborer,	Machinist,	Good	28 50	Common	None	None	Locomotive repairs.
Three fingers off	Male	14	32	Student,	Machinist,	Good	29 50	Common	None	None	Locomotive repairs.
Hernia,	Male	30	31	Machinist,	Machinist,	Good	32 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	47	49	Machinist,	Machinist,	Good	46 50	Common	None	None	Locomotive repairs.
Hernia,	Male	20	23	Apprentice,	Machinist,	Good	30 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	52	53	Machinist,	Machinist,	Good	25 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	24	33	Machinist,	Machinist,	Good	31 00	Common	None	Truss	Locomotive repairs.

Invalided Soldiers' Commission, Canada.

FUTURE OFFICE WORKERS

The war has given opportunity to many invalided soldiers to learn all details of office practice when formerly they may have worked at a single office task.

Invalided Soldiers' Commission, Canada.

LEARNING THE TOUCH SYSTEM

Ability to operate a typewriter is a valuable asset in many occupations, even for one who does not intend to be exclusively a typist.

Stiff finger,	Male	19	30	Apprentice,	Machinist,	Good	35 00	Common	None	None	Locomotive repairs.
Hernia,	Male	55	69	Machinist,	Machinist,	Good	20 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	55	67	Machinist,	Machinist,	Good	28 50	Common	None	None	Locomotive repairs.
Stiff finger,	Male	32	45	Machinist,	Machinist,	Good	40 00	Common	None	None	Locomotive repairs.
Hernia,	Male	50	56	Machinist,	Machinist,	Good	25 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	44	46	Machinist,	Machinist,	Good	25 50	Common	None	Truss	Locomotive repairs.
Hernia,	Male	29	51	Machinist,	Machinist,	Good	37 00	Common	None	Truss	Locomotive repairs.
Hernia,	Male	52	55	Machinist,	Machinist,	Good	35 50	Common	None	None	Locomotive repairs.
Hernia,	Male	41	43	Machinist,	Machinist,	Good	35 50	Common	None	Truss	

The experience of the Philadelphia and Reading Railway Company in employing disabled men on its various operating divisions is indicated in the following table:

STATEMENT SHOWING DISABLED MEN IN SERVICE ON THE OPERATING DIVISIONS.

Nature of Disability.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present monthly wages.	Education previous to injury.	Education or Special Training for Present Occupation.	What Artificial Appliance is Used.	REMARKS. Nature of work and any interesting features in case.
Both legs off,	30	63	Brakeman,	Crossing watchman.	Good	$48 00	Common	None,	2 artificial legs,	Watching railroad crossing.
Stiff right hand,	50	57	Laborer,	Crossing watchman.	Good	45 00	Common	None,	None,	Watching railroad crossing.
Left leg off,	20	49	Brakeman,	Crossing watchman.	Good	48 00	Common	None,	Artificial leg,	Watching railroad crossing.
Right leg off,	33	61	Brakeman,	Crossing watchman.	Good	48 00	Common	None,	None,	Watching railroad crossing.
Left arm off,	38	67	Brakeman,	Crossing watchman.	Good	48 00	Common	None,	None,	Watching railroad crossing.
Back injured,	44	48	Laborer,	Crossing watchman.	Good	48 00	Common	None,	None,	Watching railroad crossing.
Left leg off,	28	52	Laborer,	Crossing watchman.	Good	43 00	Common	None,	Artificial leg,	Watching railroad crossing.
Left arm off,	54	64	Foreman,	Crossing watchman.	Good	43 00	Common	None,	None,	Watching railroad crossing.
Leg off,	12	69	None,	Crossing watchman.	Good	50 00	Common	None,	Uses crutch,	Watching railroad crossing.
Rupture,	27	34	Hatter,	Crossing watchman.	Good	50 00	Common	None,	Trusses,	Watching railroad crossing.
Arm off,	53	56	Welder,	Crossing watchman.	Good	52 00	Common	None,	None,	Watching railroad crossing.
Rupture,	28	54	Brakeman,	Crossing watchman.	Good	50 00	Common	None,	Truss,	Watching railroad crossing.
Leg off,	23	27	Laborer,	Crossing watchman.	Good	47 00	Common	None,	Artificial leg,	Watching railroad crossing.
Leg off,	23	63	Laborer,	Crossing watchman.	Good	50 00	Common	None,	None,	Watching railroad crossing.
Leg off,	30	64	Brakeman,	Crossing watchman.	Good	50 00	Common	None,	Artificial leg,	Watching railroad crossing.
Spine hurt,	47	55	Machinist,	Crossing watchman.	Good	52 00	Common	None,	Steel brace,	Watching railroad crossing.

DISABLED WORKERS NOW EMPLOYED.

Nature of Disability.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present monthly wages.	Education previous to injury.	Education or Special Training for Present Occupation.	What Artificial Appliance is Used.	REMARKS. Nature of work and any interesting features in case.
One eye lost,	50	69	Laborer,	Crossing watchman.	Good	50 00	Common	None,	None.	Watching railroad crossing.
Left leg off,	8	39	Clerk,	Crossing watchman.	Good	50 00	Common	None,	Crutch and cane,	Watching railroad crossing.
Leg off,	38	43	Brakeman,	Crossing watchman.	Good	52 00	Common	None,	Artificial leg,	Watching railroad crossing.
Leg off,	23	40	Brakeman,	Crossing watchman.	Good	50 00	Common	None,	Artificial leg,	Watching railroad crossing.
Leg off,	18	30	Driver,	Crossing watchman.	Good	52 00	Common	None,	Crutch,	Watching railroad crossing.
Short leg,	6	62	None,	Crossing watchman.	Good	47 00	Common	None,	High shoe,	Watching railroad crossing.
Leg off,	24	60	Brakeman,	Crossing watchman.	Good	50 00	Common	None,	Artificial leg,	Watching railroad crossing.
Short arm,	28	32	Lamp lighter,	Lamp lighter,	Good	71 50	Common	None,	None,	Taking care of lamps.
Fractured hip,	67	69	Engineman,	Crossing watchman.	Good	45 00	Common	None,	None,	Watching crossing.
Arm and foot off,	19	21	Baker,	Crossing watchman.	Good	52 50	Common	None,	Artificial foot,	Watching crossing.
Right leg off,	34	67	Laborer,	Crossing watchman.	Good	48 00	Common	None,	Artificial leg,	Watching crossing.
Left arm off,	28	49	Brakeman,	Crossing watchman.	Good	44 00	Common	None,	None,	Watching crossing.
Left arm off,	22	69	Laborer,	Crossing watchman.	Good	48 00	Normal school.	None,	None,	Watching crossing.
Left arm off,	33	49	Car inspector,	Crossing watchman.	Good	50 00	Common	None,	None,	Watching crossing.
Right arm off,	31	41	Brakeman,	Crossing watchman.	Good	50 00	Common	None,	None,	Watching crossing.
Left leg off,	29	41	Brakeman,	Crossing watchman.	Good	50 00	High school	None,	Artificial leg,	Watching crossing.

Ankle crushed,	27	37	Laborer,	Crossing watchman.	Good	50 00	No schooling	None,	None	Watching crossing.
Three toes off,	21	25	Laborer,	Tunnel watchman.	Good	60 00	Common	None,	None.	Watching tunnel.
Bone removed from leg and skull fractured,	26	29	Laborer,	Crossing watchman.	Good	48 00	Common	None,	Silver plate in head.	Watching crossing.
Right leg off,	33	43	Laborer,	Crossing watchman.	Good	50 00	Common	None,	Stump.	Watching crossing.
Left leg off,	22	67	Brakeman,	Crossing watchman.	Good	50 00	Common	None,	None,	Watching crossing.
Thumb and two fingers,	47	60	Signalman,	Signal repairman.	Good	95 70	Common	None,	None,	Repairing signals.
Toe off and short leg,	7	46	Lampman,	Batteryman,	Good	63 25	Common	None,	None,	Maintaining signals.
Thumb and two fingers,	34	46	Fireman,	Stationary fireman.	Good	67 50	Common	None,	None,	Firing boilers.
Arm off,	22	30	None,	Telegraph Opr.,	Good	72 00	Common	1 yr. student,	None,	
Arm off,	24	48	Brakeman,	Switchman,	Good	75 00	Common	None,	None,	Throwing switches.
Arm off,	35	50	Brakeman,	Switchman,	Good	90 00	Common	None,	Artificial arm,	Throwing switches.
Leg off,	20	28	Clerk,	Switchman,	Good	75 00	Common	None,	Artificial leg.	Throwing switches.
Leg off,	22	30	Brakeman,	Switchman,	Good	75 00	Common	None,	Artificial leg,	Throwing switches.
Arm off,	25	35	Brakeman,	Switchman,	Good	75 00	Common	None,	None,	Throwing switches.
Leg off,	22	38	Brakeman,	Switchman,	Good	75 00	Common	None,	Artificial leg,	Throwing switches.
Leg off,	24	35	Brakeman,	Switchman,	Good	75 00	Common	None,	Artificial leg,	Throwing switches.
Leg off,	25	40	Brakeman,	Telegraph Opr.,	Good	72 00	Common	10 mo. student,	Artificial leg,	
Foot off,	26	28	Brakeman,	Switchman,	Good	70 00	Common	None,	Artificial foot,	Throwing switches.
Leg off,	22	24	Fireman,	Telegraph Opr.,	Good	72 00	Common	10 mo. student,	Crutch.	
Two toes off right foot and all toes off left foot,	23	38	Brakeman,	Brakeman,	Good	86 00	Common	None,	None.	Watching engines.
Both legs off,	40	58	Fireman,	Eng. watchman,	Good	65 00	Common	None,	Two artificial limbs.	
Left leg off,	52	55	Conductor,	Flagman,	Good	86 00	Common	None,	Artificial leg.	
Left leg off,	54	67	Conductor,	Yard master,	Good	90 00	Common	None,	Artificial leg.	
Injured hip,	46	51	Brakeman,	Flagman,	Good	86 00	Common	None,	None.	

DISABLED WORKERS NOW EMPLOYED.

Nature of Disability.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present monthly wages.	Education previous to injury.	Education or Special Training for Present Occupation.	What Artificial Appliance is Used.	REMARKS. Nature of work and any interesting features in case.
Thumb and two fingers off,	14	42	Brakeman,	Flagman,	Good	86 00	Common	None,	None.	
Index finger off,	18	25	Brakeman,	Flagman,	Good	86 00	Common	None,	None.	
Injured about head,	23	29	Brakeman,	Watchman,	Good	55 00	Common	None,	None.	
Four fingers off,	19	30	Brakeman,	Flagman,	Good	86 00	Common	None,	None.	
Spine injured,	33	37	Brakeman,	Flagman,	Good	86 00	Common	None,	None.	
Third and fourth fingers off,	24	51	Brakeman,	Flagman,	Good	86 00	Common	None,	None.	
Three fingers off,	21	27	Brakeman,	Flagman,	Good	86 00	Common	None,	None.	
Four fingers off,	43	63	Conductor,	Conductor,	Good	125 00	Common	None,	None.	
Both ankles injured,	45	49	Flagman,	Watchman,	Good	55 00	Common	None,	None.	
Two fingers off,	21	45	Brakeman,	Conductor,	Good	125 00	Common	None,	None.	
Left hand stiff,	20	47	Brakeman,	Fireman,	Good	76 00	Common	None,	None.	
Injured chest,	44	62	Engineman,	Brakeman,	Good	88 00	Common	None,	None.	
Left leg off,	30	42	Brakeman,	Brakeman,	Good	88 00	Common	None,	Artificial leg.	
Right arm off,	36	56	Brakeman,	Brakeman,	Good	88 00	Common	None,	None.	
Three fingers off,	24	49	Brakeman,	Conductor,	Good	97 00	Common	None,	None.	
Right foot off (part),	25	45	Fireman,	Fireman,	Good	76 00	Common	None,	None.	
Blind, right eye,	30	42	Brakeman,	Brakeman,	Good	88 00	Common	None,	None.	
Right hand stiff,	21	45	Miner,	Brakeman,	Good	88 00	Common	None,	None.	
Right arm stiff,	26	61	Carpenter,	Engineman,	Good	105 00	Common	None,	None.	
Right leg short 2¾ in.,	23	42	Brakeman,	Conductor,	Good	97 00	Common	None,	None.	
Two fingers off, left hand,	27	52	Brakeman,	Brakeman,	Good	88 00	Common	None,	None.	
Right hand stiff,	47	69	Brakeman,	Brakeman,	Good	88 00	Common	None,	None.	
Left hand stiff,	29	59	Brakeman,	Fireman,	Good	76 00	Common	None,	None.	
Right leg off,	27	44	Fireman,	Fireman,	Good	76 00	Common	None,	Artificial leg.	
Legs and ribs deformed,	25	50	Fireman,	Engineman,	Good	105 00	Common	None,	None.	
Right arm off,	17	57	Laborer,	Brakeman,	Good	88 00	Common	None,	None.	
Left leg off,	40	42	Brakeman,	Brakeman,	Good	88 00	Common	None,	Artificial leg.	
Fourth finger off,	38	59	Asst. yard master,	Chief yard master.	Good	175 00	Common	None,	None.	

Right hand stiff.	27	47	Brakeman.	Chief yard master.	Good	156 00	Common	None.	None.
Right hand stiff.	23	45	Conductor.	Asst. yard master.	Good	145 00	Common	None.	None.
Right arm off.	25	44	Brakeman.	Brakeman.	Good	88 00	Common	None.	None.
Second right finger and middle left finger off.	39	41	Brakeman.	Conductor.	Good	97 00	Common	None.	None.
Left leg off.	18	30	Fireman.	Fireman.	Good	76 00	Common	None.	None.
Right arm off.	16	23	None.	Switchman.	Good	50 00	Common	None.	None.
Right arm off.	21	34	Brakeman.	Switchman.	Good	72 00	Common	None.	None.
Left leg off.	35	58	Conductor.	Switchman.	Good	73 00	Common	None.	None.
Both legs off.	38	40	Conductor.	Switchman.	Good	73 00	Common	None.	Artificial legs.
Left leg off.	23	37	Fireman.	Fireman.	Good	76 00	Common	None.	Artificial leg.
Four fingers off.	24	60	Brakeman.	Engineman.	Good	105 00	Common	None.	None.
Knee caps injured.	39	42	Brakeman.	Brakeman.	Good	90 00	Common	None.	None.
Right arm off.	23	53	Brakeman.	Switchman.	Good	65 00	Common	None.	None.
Right thumb off.	25	40	Brakeman.	Brakeman.	Good	88 00	Common	None.	None.
Left leg off.	22	37	Brakeman.	Fireman.	Good	76 00	Common	None.	Artificial leg.
Right leg off.	27	40	Brakeman.	Fireman.	Good	76 00	Common	None.	Artificial leg.
Index finger off.	16	21	Laborer.	Conductor.	Good	97 00	Common	None.	None.
Left arm off.	35	62	Watchman.	Switchman.	Good	50 00	Common	None.	None.
Index finger off.	18	26	Chemist.	Brakeman.	Good	80 00	Common	None.	None.
Short left leg.	26	50	Brakeman.	Conductor.	Good	90 00	Common	None.	None.
Foot off.	26	50	Brakeman.	Fireman.	Good	80 00	Common	None.	Artificial foot.
Right arm deformed.	38	39	Brakeman.	Asst. yard master.	Good	105 00	Common	None.	None.
Right arm deformed.	62	64	Machinist.	Engineman.	Good	110 00	Common	None.	None.
Left arm off.	35	54	Boatman.	Yard master.	Good	115 00	Common	None.	None.
Left leg off.	22	36	Watchman.	Pumpman.	Good	60 00	Common	None.	Artificial leg.
Right arm off.	25	43	Brakeman.	Brakeman.	Good	98 00	Common	None.	None.
Left leg off.	32	35	Fireman.	Fireman.	Good	85 00	Common	None.	Artificial leg.
Defective eye.	27	49	Boatman.	Pumpman.	Good	60 00	Common	None.	None.
Foot off.	16	61	Teacher.	Signalman.	Good	74 62	Normal school.	None.	None.
Right leg off.	25	45	Brakeman.	Switchman.	Good	60 00	Common	None.	Artificial leg.
Right hand off.	22	48	Brakeman.	Car cleaner.	Good	60 00	Common	None.	None.
Right hand off.	20	46	Fireman.	Baggage agent.	Good	65 00	Common	None.	Hook.
Left arm off.	17	47	Breaker boy.	Agent.	Good	74 00	Common	None.	None.
Left leg short.	10	39	None.	Clerk.	Good	70 00	High school	None.	Extension shoe.
Leg off.	23	50	Brakeman.	Eng. watchman.	Good	60 00	Common	None.	Artificial leg.
Right arm off.	23	45	Operator.	Agent.	Good	72 50	Common	None.	None.
Both legs off.	29	44	Brakeman.	Clerk.	Good	77 50	High school	None.	Artificial legs.
Left arm off.	13	30	None.	Agent.	Good	48 00	Common	None.	None.
Right leg off.	25	35	Brakeman.	Operator.	Good	74 62	High school	10 months student operator.	Artificial leg.
Right leg off.	31	57	Brakeman.	Car clerk.	Good	76 00	High school	None.	Artificial leg.
Left arm off.	20	36	Brakeman.	Clerk.	Good	87 00	High school	None.	None.
Left arm off.	35	48	Freight checker.	Frt. caller.	Good	75 00	High school	None.	None.
Stiff knee joint.	30	53	Brakeman.	Switchman.	Good	85 00	Common	None.	None.
Stiff leg.	39	62	Brakeman.	Switchman.	Good	90 00	Common	None.	None.
Hand off at wrist.	22	45	Brakeman.	Rammman.	Good	90 00	Common	None.	None.

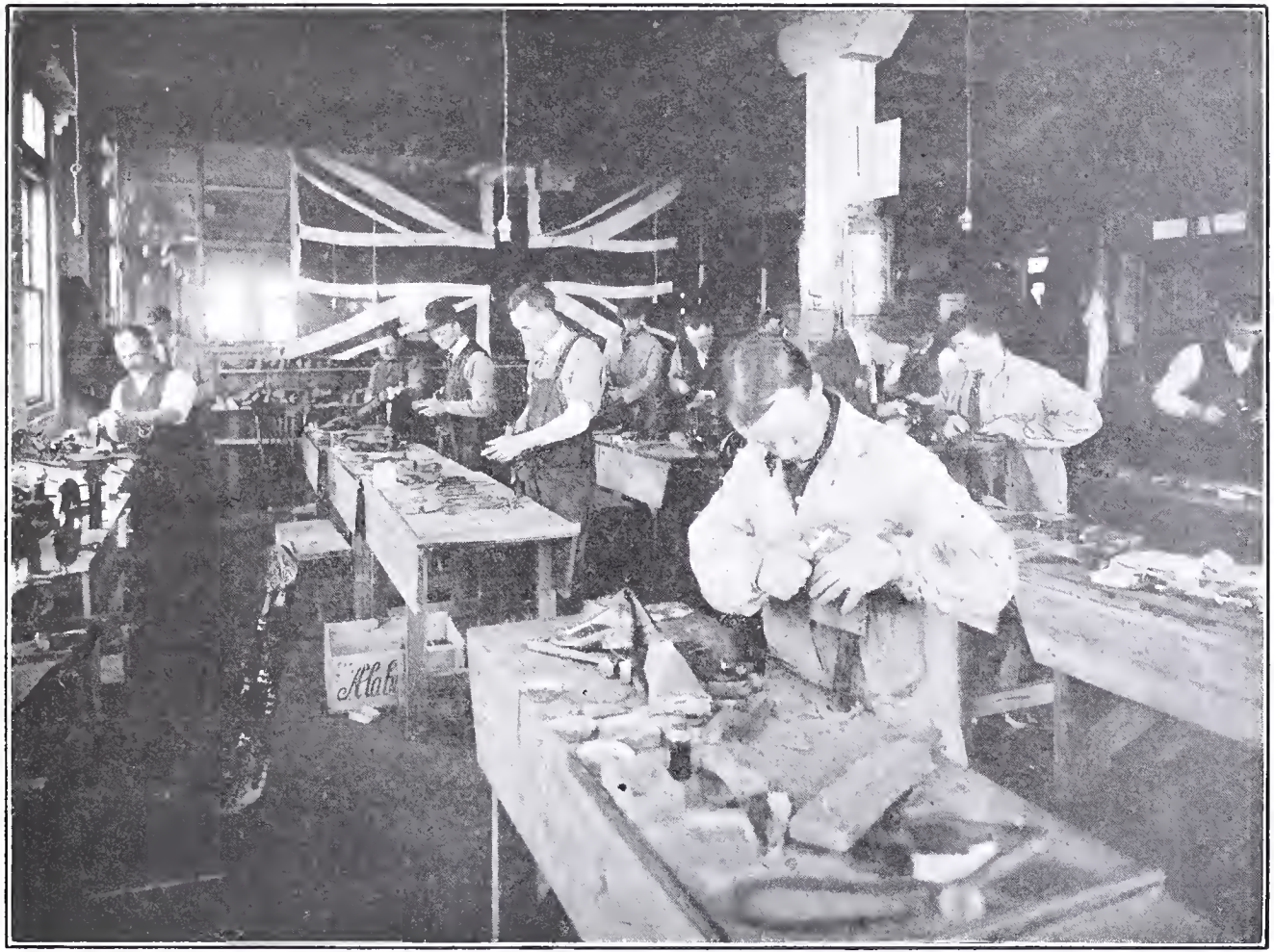
DISABLED WORKERS NOW EMPLOYED.

Nature of Disability.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present monthly wages.	Education previous to injury.	Education or Special Training for Present Occupation.	What Artificial Appliance is Used.	REMARKS. Nature of work and any interesting features in case.
Both feet off,	24	36	Brakeman,	Towerman,	Good	54 00	Common	None,	Artificial feet.	
Arm off,	24	54	Brakeman,	Towerman,	Good	54 00	Common	None,	None.	
Arm off,	25	48	Brakeman,	Switchman,	Good	85 00	Common	None,	None.	
Left leg off,	26	33	Brakeman,	Brakeman,	Good	75 00	Common	None.	Artificial leg.	
Thumb and index finger off,	13	47	None.	Freight train master.	Good	215 00	Common	None,	None.	
Left leg off,	41	55	Engineer,	Pass. engineer,	Good	160 00	Common	None,	Artificial leg.	
Left knee cap stiff,	53	61	Engineer,	Pass. engineer,	Good	150 00	Common	None,	None.	
Right thumb off,	20	48	Brakeman,	Pass. brakeman,	Good	95 00	Common	None,	None.	
Thumb and index finger off,	28	50	Brakeman,	Pass. engineer,	Good	160 00	Common	None.	None.	
Right arm stiff,	31	38	Switchman,	Pass. brakeman,	Good	90 00	Common	None,	None.	
Left arm off,	30	36	Brakeman,	Crew clerk,	Good	60 00	Common	None,	None.	
Right hand off,	32	41	Brakeman,	Flagman,	Good	95 00	Common	None,	None.	
Part of foot off,	25	50	Brakeman,	Fireman,	Good	70 00	Common	None.	None.	
Left arm off,	28	39	Brakeman,	Flagman,	Good	95 00	Common	None,	None.	
Left hand crushed,	43	50	Brakeman,	Flagman,	Good	95 00	Common	None,	None.	
Part of foot off,	32	47	Conductor,	Engineman,	Good	105 00	Common	None,	None.	
Part of foot off,	23	38	Brakeman,	Engineman,	Good	105 00	Common	None,	None.	
Right arm stiff,	46	50	Engineman,	Engineman,	Good	105 00	Common	None,	None.	
Left leg off,	35	47	Brakeman,	Fireman,	Good	70 00	Common	None,	Artificial leg.	
Left arm off,	26	52	Brakeman,	Brakeman,	Good	90 00	High school	None.	None.	
Leg off,	33	44	Brakeman,	Pumpman,	Good	60 00	Common	None,	Artificial leg.	
Left arm off,	10	29	None,	Operator,	Good	79 87	Common	None,	None.	
Left hand off,	18	29	Butcher,	Signalman,	Good	82 50	Common	8 mo. student,	Artificial hand.	
Leg off,	19	32	Fireman,	Signalman,	Good	79 87	Common	9 mo. student,	Artificial leg.	
Short leg,	3	42	None,	Signalman,	Good	79 87	Common	12 mo. student,	None.	
Left leg off,	9	21	None,	Stenographer,	Good	80 00	High school	None,	Crutch.	
Left leg lame,	2	48	None,	Signalman,	Good	84 00	High school	9 mo. student,	Steel brace.	
Right leg off,	15	68	None,	Instructor in telegraphy.	Good	89 00	Common	10 mo. student,	Artificial leg.	
Left leg off,	9	43	None,	Signalman,	Good	77 25	Common	7 mo. student,	Artificial leg.	

Invalided Soldiers' Commission, Canada.

OXY-ACETYLENE CUTTING AND WELDING REQUIRE SKILL

Note the use of goggles by instructor and pupils as safeguards to prevent the ultra-violet rays from injuring the eyes and adding to the disability already caused by warfare.



Invalided Soldiers' Commission, Canada.

AT THE SHOEMAKER'S BENCH

The making of shoes is a trade of permanence and is suitable for many forms of physical disability.

Left leg off,	12	35	None,	Signalman,	Good	74 62	Common	9 mo. student,	Artificial leg.
Deformed foot and ankle,	At birth	25	None.	Signalman,	Good	74 62	Common	7 mo. student,	None.
Right arm off,	14	56	None,	Signalman,	Good	77 25	Common	8 mo. student,	None.
Left leg off,	16	32	Apprentice,	Operator,	Good	91 42	Common	1 yr. student,	Artificial leg.
Undeveloped leg,	2	58	None,	Signalman,	Good	79 87	Common	8 mo. student,	None.
Left leg amputated,	17	27	Brakeman,	Operator,	Good	72 00	Common	8 mo. student,	Crutch.
Fore finger deformed,	47	52	Operator,	Operator,	Good	74 62	Common	None,	None.
Left leg off,	30	59	Dispatcher,	Clerk,	Good	84 00	Common	None,	Artificial leg.
Rupture and three ribs broken,	37	41	Farming,	Sec. laborer,	Fair	* 25	Country school.	None,	
Rupture,	26	37	Farming,	Sec. laborer,	Fair	* 25	Country school.	None,	
Blind in right eye,	45	54	Sec. laborer,	Crossing watchman.	Good	48 00	Country school.	None,	
Blind in right eye,	41	43	Sec. laborer,	Crossing watchman.	Fair	48 00	Country school.	None,	
Stiff neck,	46	57	Sec. laborer,	Crossing watchman.	Good	55 00	None	None,	
Legs deformed,	59	65	Sec. laborer,	Crossing watchman.	Good	55 00	Country school.	None,	
Right arm off at shoulder,	13	69	Engine watchman,	Crossing watchman.	Good	55 00	Country school.	None,	
Left hand deformed,	48	69	Brakeman,	Crossing watchman.	Good	55 00	Country school.	None,	
Left foot off,	29	39	Brakeman,	Crossing watchman.	Good	55 00	Country school.	None,	
Right hand deformed,	14	55	Laborer,	Crossing watchman.	Good	55 00	Country school.	None,	
Left leg off,	22	32	Shoemaker,	Crossing watchman.	Fair	48 00	Country school.	None,	
Right knee cap fractured,	43	45	Steel worker,	Crossing watchman.	Fair	48 00	Country school.	None,	
Little finger, left hand stiff,	55	59	Coal miner,	Crossing watchman.	Fair	48 00	Country school.	None,	
Weak back,	34	54	Sec. laborer,	Crossing watchman.	Good	48 00	Country school.	None,	
Both legs amputated above the knee,	13	62	Signalman,	Crossing watchman.	Fair	47 00	Country school.	None,	Artificial limbs
Stiff bent knee,	45	65	Carpenter,	Crossing watchman.	Good	47 00	Country school.	None,	
Toes on right foot off,	27	33	Conductor,	Conductor,	Good	†31 00	Common	None,	

*Wage per hour.
†Wage per week.

Nature of Disability.	Age when disabled.	Present age.	Previous Occupation.	Present Occupation.	Degree of success.	Present monthly wages.	Education previous to injury.	Education or Special Training for Present Occupation.	What Artificial Appliance is Used.	REMARKS. Nature of work and any interesting features in case.
Forepart of right foot off,	36	37	Engineman,	Engineman,	Good	†40 00	Common	None,	Has artificial part of foot, own invention.	
Forefinger on left hand off,	13	32	Learning trade in nut and bolt works.	Flagman,	Good	†22 00	Common	None,		
Fracture of left femur,	38	46	School teacher,	Engineman,	Good	†30 00	High school	None,		
Three fingers and part of palm off,	25	36	Flagman,	Flagman,	Good	†18 00	Common	None,		
Forepart of right foot off,	35	41	Conductor,	Conductor,	Good	†40 00	Common	None,	Artificial part of foot used.	
Part of finger off on right hand,	23	38	Heater in steel works.	Flagman,	Good	†18 00	Common	None,		
Hip broken right side, right leg short,	31	39	Conductor,	Conductor.	Good	†35 00	Common	None.		
Large toe on right foot.	27	38	Brakeman,	Conductor.	Good	†35 00	Common	None,		
Right hand amputated,	12	28	Brick yard,	Switchman,	Good	†19 25	Common	None,		
Right foot amputated between knee and ankle.	26	32	Brakeman,	Loco. fireman,	Good	†21 00	High school	None,	Artificial foot.	
Left arm amputated above elbow,	34	57	Brakeman,	Switchman,	Good	†19 25	Common	None,		
Right hand amputated,	24	53	Brakeman,	Yardmaster,	Good	†35 00	Common	None,	Steel hook used in place of hand.	
Injury to spine,	29	56	Brakeman,	Switchman,	Good	†19 25	Common	None,		

†Wage per week.

Three fingers and pa.t of palm missing. left,	29	33	Train serviee brakeman.	Brakeman, Yd. service, ----	Good	†24 50	Common---	None, ----------	
Amputation of left leg above ankle, --------	15	27	Messenger,	R. R. elerk, ----	Good	†20 00	Common---	Electrical. -------	Artificial foot.
Left foot and toes of foot amputated, ----	36	40	Yd. service brakeman.	(Brakeman. Yd..) (Serviee eutter, -(	Good	†31 50	Grammar school.	None, ----------	Artificial foot.
Left foot and two toes of right amputated.	20	28	Yd. service, ------	(Fireman, -------) (Yd. serviee. ----(	Good	†21 00	Grammar sehool.	None. ----------	Artificial foot.
Right foot amputated,	26	29	Brakeman, Yd. serviee.	(Fireman, -------) (Yd. serviee. ----(	Good	†21 00	Grammar sehool.	None. ----------	Artificial foot.
Right arm amputated near shoulder, -------	33	52	Brakeman, eonduetor, ft.	Switchman, -----	Good	†19 25	Common---	None, ----------	Artificial arm.
Permanent fraeture, left arm, ----------	41	41	Train service. -----	Yard master, ---	Good	†38 75	Common---	None. ----------	Brace for arm.
Right foot amputated,	23	26	Brakeman, yard serviee.	Fireman. Yd. service.	Good	†30 00	Grammar and Commereial sehool.	None, ----------	Artifieial foot.
Front portion of left foot amputated, ----	37	64	Asst. yard master,	Yard-hump eonductor.	Fair	†25 76	Common---	None, ----------	Portion of artificial foot.
Right arm amputated,	23	42	Brakeman, ------	Operator, switch tower.	1st class.	†21 00	Grammar	None, ----------	
Both legs off, ----------	24	28	Track walker, brakeman.	Clerk. ----------	V. Good	†16 25	No English education.	None. ----------	
Left arm amputated between wrist and elbow, ----------	20	43	Train serviee, -----	Y. M. clerk, extra Y. M.	Good	†20 50	Grammar sehool.	None, ----------	
Both legs amputated.--	28	36	Frt. flagman, -----	Yd. master Clk..	Good	†21 75	Grammar school.	None. ----------	Artificial legs.
Left foot amputated at instep, ----------	21	24	Flagman, ----------	Loco. fireman. --	Good	†19 25	Grammar sehool.	None, ----------	Artifieial foot.
Left arm amputated,--	22	38	Brakeman, --------	Opr., switch tower.	1st Class	†21 00	Grammar school.	None, ----------	
Thumb of right hand and two fingers of left hand off, -------	33	63	Brakeman, --------	Fireman. --------	Good	†21 95	Common---	None, ----------	
Two fingers amputated,	27	35	Brakeman, --------	Fireman and Ex. engineman.	Good	†38 50	Common---	Prac. experience.	
Left arm amputated,--	28	59	Brakeman and extra fireman.	Asst. yardmaster.	Good	†27 09	Common---	Experience. ----	

†Wage per week.

DISABLED WORKERS NOW EMPLOYED.

Nature of Disability.	Age when disabled.	Present age.	Previous. Occupation.	Present Occupation.	Degree of success.	Present monthly wages.	Education previous to injury.	Education or Special Training for Present Occupation.	What Artificial Appliance is Used.	REMARKS. Nature of work and any interesting features in case.
Left leg amputated,	25	42	Brakeman,	Signalman,	Fair	†19 31	Common	None,	Combination leather and wooden leg.	
Right leg amputated,	18	47	Fireman,	Fireman,	Fair	†23 00	Common	None,	Aluminum and leather wooden leg.	
Left foot off at ankle,	45	57	Conductor,	Fireman,	Fair	†22 00	Common	None,	Has wood and leather leg casing and rubber foot.	
Leg off,	15	54	Leverman,	Leverman,	Good	†19 33	Public school.	34 yrs. service,	Peg leg.	
Left leg off,	13	31	Timekeeper checker,	Opr. and Clerk,	Good	†18 00	Public school.	12 yrs. experience.	Artificial leg.	
Right hand amputated,	17	34	School teacher,	Bookkeeper,	Good	†21 92	Normal school training.	None,		
Right leg above knee,	35	58	Pass. conductor,	Clerk,	Good	†16 15	High school	None,	Artificial leg.	
Right leg amputated,	20	48	Machinist,	Station master,	Good	†21 20	Common	None,	Artificial leg.	
Loss of foot and two fore fingers, right hand,	42	56	Conductor,	Station agent,	Good	50 00	Common	Special in agency work.	Limb and foot,	Freight and ticket work.
Loss of left hand,	Born without hand	58	Farm and clerical,	Agent and Opr.,	Good	60 40	Common	Telegraph and agency work.	None,	Telegraphy, freight and ticket work.
Stiff hip joint,	8	33	In slate mill,	Agent and Opr.,	Good	61 50	Common	Telegraph and agency work.	None,	Telegraphy, freight and ticket work.
Stiff ankle,	2	48	Farm work,	Agent and Opr.,	Good	78 00	Common	Telegraph and agency work.	None,	Telegraphy, freight and ticket work.

†Wage per week.

Stiff arm,	15	59	Farm work,	Agent and Opr.,	Good	59 60	Common	Telegraph and agency work.	None,	Telegraphy, freight and ticket work.
False joint, left elbow,	4	28		Clerk,	Good	95 00	None	None,	None,	Rate clerk.
Hip shrinkage and short leg,	16	23		Clerk,	Good	100 00	Common	None,	Special shoe with high heel.	
Right arm off,	28	42	Brakeman,	Warehouse man, clerk and checker.	Good	* 25	Common	None,	None,	Warehouse clerk.
One leg paralyzed,	12	73	Toll gate keeper,	Night watchman,	Fair	20 00	None	None,	Crutches,	Watches buildings against fire and theft.
Left leg off and left wrist crippled,	21	36	Brakeman,	Crossing watchman.	Good	48 00	Common	None,	Limb,	Watch crossings to prevent accidents.
Right arm, above wrist,	45	72	Laborer,	Crossing watchman.	Good	55 00	None	None,	Limb,	Watch crossings to prevent accidents.
Both legs off below knees,	24	40	Engineer,	Crossing watchman.	Good	55 00	Common	None,	Limb,	Watch crossings to prevent accidents.
Both legs off, one above and one below knee,	38	40	Laborer,	Crossing watchman.	Good	55 00	Common	None,	Limb,	Watch crossings to prevent accidents.
Right arm off at shoulder,	18	50	Brakeman,	Crossing watchman.	Good	55 00	Common	None,	None,	Watch crossings to prevent accidents.
Left leg off between ankle and knee,	36	54	Railroad conductor,	Yard engineer,	Good	125 00	Common	Loco. fireman 3 years.	Leg,	Running shift engine in yard.

*Wage per hour

Range of Possibilities for Training of Disabled Men.

The number of occupations for which it is possible to train disabled soldiers and sailors is shown by the experience of the Invalided Soldiers' Commission of the Department of Soldiers' Civil Re-establishment of Canada. According to the issue of May, 1918, of Reconstruction, the official bulletin of the Department of Soldiers' Civil Re-establishment of Canada, training was then proceeding in 179 different courses. The bulletin states that an examination of the list of courses discloses that not many avenues of work are closed to crippled men. The great expansion of the scope of industrial training work for crippled soldiers providing a great number of definite occupations into which the disabled veterans may be guided, scatters these men into as many different kinds of industry as possible, safeguarding not only the industrial institutions but also protecting the men themselves by minimizing the danger of crippled soldiers competing against each other.

The complete list of training courses being conducted by the Canadian Department of Soldiers' Civil Re-establishment up to May, 1918, is as follows:

Armature winding.
Agriculture.
Accounting.
Arts—university.
Automobile repairing.
Agriculture and farm mechanics.
Architecture and building construction.
Automobiles—care and operation.
Applied science.
Arts and crafts.
Accounting cost and elementary.
Art metal work.
Ad. writing.
Brush and broom making.
Braille typewriting and reading with massage.
Bench machinist.
Bench stove fitter.
Boiler maker.
Boiler layer out.
Bench tinsmith.
Bricklayer foreman.
Bench carpentry.
Business.
Bookkeeping.
Barbering.
Boot making, surgical.
Basketry.
Blacksmithing.
Banking.
Building inspector.
Boat finishing and varnishing.
Brass finishing and polishing.
Bronze chasing and finishing.
Civil service.
Commercial.
Cabinet making.
Carriage striper.
Chartered accountant.
Civil engineer.
Commercial art.
Carpentry.
Commercial telegraphy.
Commercial specialist (law).
Clay modeling.
Commercial illustrator.
Coal mining.
Clerk of works.
Carding.
Cinematograph operating.
Cement and steel testing.
Core making.
Drafting, designing and advertising.
Drill hand.
Dairying.
Drafting (structural).
Designing and stencil cutting.
Electricity.
Engine turning.
Elevator operation.
Electrical engineering.
Electrical wiring.
Elementary civil engineering.
Electrical machine and motor testing.
Electroplating.
Elementary surveying.
Embalming.
Furrier.
Flower growing.
Farming and poultry raising, field and animal husbandry.
French polishing.
Fruit growing.
Finishing (woolen mills).
Furniture assembling.
Gasoline course.
Gas and steam engine operation.
Grain inspector.
Gas engines (manufacturing of).
Gardening and greenhouse work.

General farming.
Garage mechanics.
Highway construction.
Harness fitter.
Harness stitcher.
Hog raising.
Health inspector.
Horticulture.
Harness making and saddlery.
Heating plant operation.
Harness repairing.
House painting and decorating.
Interpreting.
Illustrating.
Inspector of meats and foods.
Joinery.
Jewellery polishing and soldering.
Librarian.
Lens grinding.
Limb manufacturing.
Mechanical dentistry.
Machine shop practice.
Massage.
Milk inspector.
Medicine and surgery.
Machinist.
Mechanical drawing.
Motorman, street railway.
Municipal secretary.
Manual training instructor.
Mill hand woodworking.
Multigraph adding machine and comptometer.
Milling and assaying.
Music.
Monotype operating.
Mining.
Metallurgy.
Lead glazing.
Naval architecture.
Navigation.
Novelty making.
Oxy-acetylene welding.
Optician apprentice (lens grinding).
Ornamental plasterer.
Poultry.
Pneumatic tool repairer.
Pharmacy.
Plaster modeling.
Pattern making.
Printing.
Pastry cook.
Plumbing.
Steam and gas fitting.
Power house assistant.
Poultry raising.
Gardening and animal husbandry.
Power sewing machine operating.
Pottery.
Painting and decorating.
Piano finishing.
Photography.
Piano tuning.
Reedworking.
Railroad telegraphy and station work.
Road inspection.
Shoe and harness repairing.
Shoemaking and repairing.
Sculpture in stone or wood.
Salesmanship, commercial.
Structural designing.
Shorthand and typewriting.
Switchboard operation (provincial telephone systems).
Stationary engineering.
Singing.
Sign painting and show card.
Stone cutting and gold work (jewellery).
Steam and hot water heating and short course in steam engines.
Suburban farming.
Sign painting.
Surveying.
Stain glass manufacture.
Spinning.
Storage battery repair.
Stock raising.
Trombone playing.
Tractor engineering.
Typewriter repairing.
Tinsmithing.
Teacher (public school).
Tree surgery.
Tailor's cutter.
Theatrical mechanics.
Tile setting.
University—first year of course in dentistry.
Upholstering.
Veterinary assistant.
Watchmaking.
Wireless telegraphy.
Wheel trueing and bicycle repairing.
X-Ray operating.

Co-operation With National Authorities.

All of the data on possibilities for employment of disabled soldiers and sailors collected by the Bureau of Employment of the Department of Labor and Industry, is being made available to the Federal Board for Vocational Education, under which Board the Federal Vocational Rehabilitation Act centralizes the occupational rehabilitation project.

The Bureau of Employment is co-operating with the Federal authorities, to the fullest extent in the effort to obtain suitable occupations for Pennsylvania veterans disabled in war service.

The preliminary work conducted in Pennsylvania by the State Committee on Rehabilitation of Crippled Soldiers and Sailors and by the Department of Labor and Industry, through its Bureau of

Employment, will doubtless be of aid to the Federal authorities. One result of this preliminary work has been to familiarize virtually every employer in Pennsylvania with the general features of the rehabilitation plan.

The questionnaire sent broadcast through the State not only brought in much valuable data but also served as an educational medium to acquaint the employers and public generally with the human reconstruction problem to be met during the war and following its close. There have been about 50,000 invalided soldiers returned to Canada after four years of war. Of that number only about 10 per cent. are unable to return to their former occupations and require training for a new occupation. It may therefore be estimated that probably, even after several years of war, not more than 5,000 disabled soldiers and sailors returned to Pennsylvania will require training for new occupations and for subsequent placement in employment in such new occupations. It may be consequently realized that even though heavy demands for labor may have had an influence in magnifying the list of employment opportunities on the questionnaires, the contact points established by the replies will make possible from the 50,000 places offered, suitable employment for all disabled men returned to Pennsylvania.

On April 30, 1918, the Department of Soldiers' Civil Re-establishment in Canada after almost four years of war had approved re-education courses for 3,861 soldiers so disabled by war injury as to be unable to resume their previous civil occupations. At that time there were 1,956 re-education courses proceeding. Of that number, 1,839 were discharged men receiving vocational pay and allowances and the other 117 were patients in military hospitals. Training courses had been granted to 215 men who declined to accept them and courses were also granted 274 men who discontinued the courses after beginning them. The number of men who had completed courses on April 30, 1918, was 351 and, in addition, 1,668 men were attending vocational training classes conducted by the Department of Soldiers' Civil Re-establishment in the hospitals and sanatoria. Evening instruction was also being given to 59 discharged men. The figures on occupational work in the hospitals does not include the number of men receiving instruction in ward occupations such as basketry, embroidery, weaving and similar work.

A Comment on Pennsylvania's Work.

One viewpoint of the work performed in Pennsylvania through the survey to find opportunities for placement of crippled soldiers and sailors was given in an article contributed to the Philadelphia North American of August 18, 1918, by Lewis Edwin Theiss. In part the author said:

How valuable industrial surveys will prove in each of our forty-eight states is indicated by Great Britaiu's experience in placing soldiers. While 40 per cent. of disabled British soldiers returu to their former employers, 35 per cent. of the total number of British war cripples will consider only such employment as is furnished them near their owu homes. In the United States it is the State of Peunsylveuia that has blazed this path. Months ahead of any other state, she has already made a complete industrial war survey withiu her borders. Early in January of this year the State Department of Labor and Iudustry sent to every industrial employer iu Pennsylvauia two questionnaires, one asking how many industrial jobs were already held by the disabled, aud the other inquiring how many crippled soldiers, after proper training to secure efficiency, could be employed. These questionnaires were printed in sueh form that they eau be conveniently filed after being filled in aud returued to the labor department, thus eoustituting card indexes.

One of these questionnaires asked many pertiuent questions about crippes now at work. Employers were asked to specify the nature of the disability of each cripple, the age when iujured, the preseut age, the previous occupatiou, the present occupation, the degree of suecess in the uew job, the present weekly wage, the education previous to injury, the special training necessary for the preseut work, and the kiud of artifieial appliance, if any, that is used. This index, when completed, will probably form the first such index in this country and perhaps iu the world. It will show to what au extent industry has beeu able to make use of crippled workers who have had no re-education or special training after iujury, and it will provide a very suggestive basis for the new work iu hand.

But more helpful still will be the iudex resulting from the filling in of the other questionuaire, for this will provide an actual list of jobs now ready for the injured. This questionnaire specified thirty-eight distinet types of disability that might arise from military injury, and the answers will show where men suffering from auy of these thirty-eight kiuds of disability eau be employed. In less thau three mouths after the questiouuaire had been sent out, the Pennsylvania Labor Department had reeeived replies showing where more thau 42,000 cripples eau be plaeed. Complete returns of this questionnaire will doubtless provide an eveu larger waiting list for the injured.

The effect of this step must be one of incalculable benefit. As far as traveled the beams of Shakespeare's candle, which shone like a good deed in a naughty world, so the light of this effort will penetrate to the darkest parts of American industry. For years we have been trying to prevent industrial accidents. Our Penusylvauia workmeu's eompeusation laws aud Pennsylvania safety codes, that endeavor to remove hazard from industry, are both aimed at the protection of the worker. Yet in spite of these and other protective restrietions, the toll of industrial aecidents in Pennsylvania is frightful. Every year 2500 workers, more or less, are killed, and 250,000 to 300,000 are injured. The total of sueh accidents in the eutire natiou must amount to millions annually. Out of this huge army of the injured come the disabled aud crippled and iueapacitated that have heretofore formed the huuan scrap heap. Aud they have gone to that scrap heap because a eripple was regarded as potentially almost worthless.

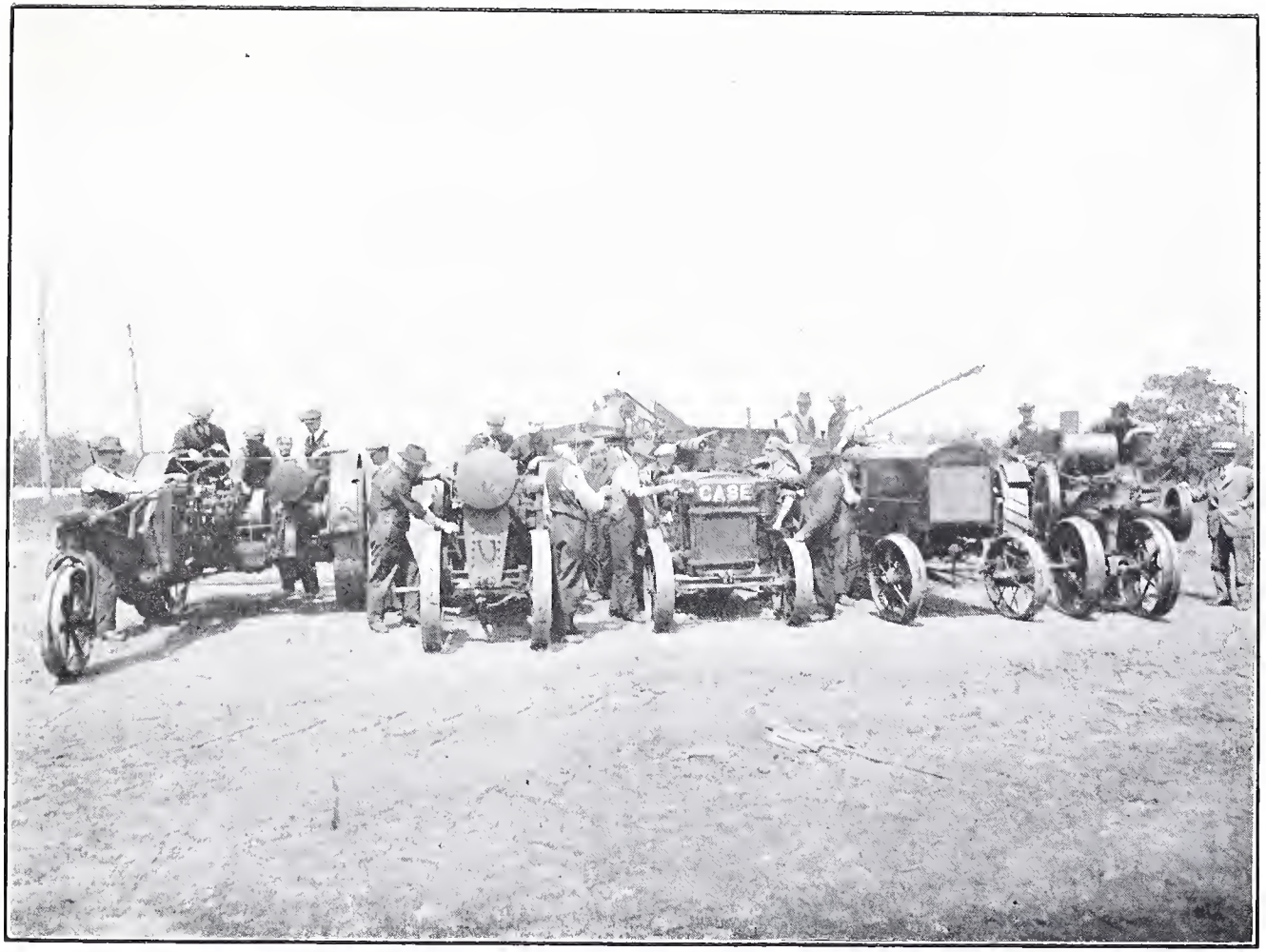
The rehabilitation of our cripped soldiers will entirely alter the situation. The war cripple who comes back to iudustry after proper re-education will be no industrial pensioner, dependeut upon the bounty of his employer, but a skilled worker eapable of holding his own with the best of his fellow-workers. Everywhere the men in charge of the rehabilitation of war cripples are iusisting that no re-educated soldier shall be allowed to accept a job until he is competent to fill that job. Once we have seeu these reeonstrueted workers doing journeymen's tasks, we shall revise our ideas as to the potentialities of the mau with oue arm or the worker with a wooden leg.

War, by making men scarce, has also made them precious. It is teaching us to conserve our human resources. When it is seen how successfully broken men can be mended, there will be an end to our wastefulness. The restoration of war cripples paves the way for the rehabilitation of all cripples. The methods of remaking men that have been built up by painful experimentation we shall more and more perfeet as the war goes on, and this perfected machiuery of human rehabilitation we shall later apply effeetively to industry. Just as the soldier who dies to save démoeracy will not have died in vaiu, so the military man who suffers disability will have served all cripples for all time. As Samson got honey from the earcass of the lion he had slain, so we shall get much that is sweet from this terrible beast, War. And not the least of these benefits will be the altered status of the man with the wooden leg—an alteration that Pennsylvauia is foremost in bringing about.

Invalided Soldiers' Commission, Canada.

OPERATING FARM TRACTORS

As motor propelled farm machinery constantly grows in usefulness, many opportunities for employment appear for returned soldiers not too seriously handicapped.



Invalided Soldiers' Commission, Canada.

CONQUERING THE MECHANICAL DETAILS

Knowledge of every part and action of the mechanism of farm tractors is more important for the returned soldier, specializing in such work, than the mere ability to operate the machines.

PART IV.

PLACEMENT OF DISABLED SOLDIERS AND SAILORS IN EMPLOYMENT.

The placement of disabled soldiers and sailors in proper employment is one of the most important phases of the work of rehabilitation confronting the Nation and the States.

The ultimate aim of the entire rehabilitation program for crippled soldiers and sailors is to render each handicapped man capable of earning a living in industry at a task he can perform without undue injury or health hazard; where advancement is possible; where competition with great numbers of other handicaps will not exist; where his disability will not later render him likely to loss of employment in the event of a great supply of able-bodied labor; and, at a task for which he has a natural aptitude or prior experience to reinforce his industrial training.

Obviously, it is unnecessary to consider, in this connection, the comparatively high percentage of returned disabled men who can re-enter their former employment without additional training, or the men who are so disabled that it is impossible for them to earn a living in any occupation, or the able-bodied soldiers and sailors who will be returned for demobilization at the termination of the war.

Before the disabled man is to be considered for actual placement in employment it may be assumed:

1. That he has completed a course of educational training for his new task under direction of the Federal Board for Vocational Education in accordance with Act of Congress.

2. That such course of training has been deemed suitable for the disabled man after his disability and his proposed ultimate employment have been carefully considered by medical examiners, from the standpoint of the man's physical capability, and by the vocational advisers, from the standpoint of the disabled man's mental characteristics, previously related training or employment, and natural aptitude for the proposed task.

It may also be assumed that the medical and vocational authorities have judiciously consulted representative employers of the trade the man will enter and representative workers, in such trade, as to general conditions surrounding the occupation.

Training in Industrial Establishments.

The industrial training courses, to be given returned disabled men by the Federal Board for Vocational Education, may vary in length from three months to one year, or longer; the shorter courses being for occupations in which the disabled man can readily become self-supporting within a comparatively short time. The longer courses will be for the more specialized occupations and will, for the first six or eight months, include, principally, theoretical training in the class rooms and laboratories. The final three or four months of such courses may be spent by the men in actual shop work in industrial establishments where operation of machines and other practical processes may be learned for a thorough knowledge of the occupation. During this final period of the course, when the disabled men are learning shop methods in industrial establishments their pay will come from the National Government. The employers will not be required to pay any wages to such disabled men in training but will make available for them the opportunity to participate in every mechanical process necessary to make the men efficient mechanics in their chosen trades.

It is during this period of actual shop training that the genuine co-operation of employers and employes in every shop, where a disabled man is placed, will be absolutely vital for the proper training and progress of the returned soldier or sailor.

The Disabled Man Enters Industry.

Disabled soldiers and sailors will probably enter industry in one of three ways.

1. By establishing themselves, in a small way, in an individual business enterprise, for which their training fits them, as shoemaking, electrical wiring, farming, poultry raising, photography, barbering and similar activities.

2. By obtaining employment upon the definite completion of an industrial training course, in which course it may be unnecessary to take the final weeks of practical training under direction of the vocational education authorities in an industrial establishment.

3. By entering an industrial establishment for the final weeks or months of an industrial training course for practical work in the task for which the disabled man is endeavoring to fit himself. In almost all such cases it may be assumed that the man will continue in the permanent employ of the plant in which he receives his practical training.

It is mainly in finding places for shop training for the third class of disabled men that the employment authorities will have to deal, although for a broad general plan it may be considered that the employment authorities will also have to deal with men included in both classes 1 and 2. It may also be expected that some of the disabled men will have contact with employers in their own communities, and may, through such contact be able to obtain a position with a former employer or with a new employer; although for the future welfare of the disabled man and in order that the Federal Board for Vocational Education may perform the duties entrusted to it by the Smith-Sears Act, it should have a record of every returned man entering employment.

General policies governing the placement of returned disabled soldiers and sailors and applicable to all sections of the United States will be evolved by the Federal Board for Vocational Education. Further development of these general policies as to details workable in each community will be made to guide officials in the local districts into which the United States will be divided for administrative purposes by the Federal Board for Vocational Education. While in all districts the Federal Board will maintain employment service to meet the peculiar needs of the problem, the Board may utilize and develop some employment organizations as found to be suitable in States and communities.

Preliminary Work of Employment Organizations.

The principal duty of the employment authorities will be to determine in what industrial plants suitable opportunities, which are not merely blind alley occupations, exist for returned disabled men.

In preparing for that duty the employment authorities in any given district will probably make a general survey of the commercial, agricultural and industrial conditions and opportunities in each community in that district.

In Pennsylvania such an industrial survey,—which. for consideration with the rehabilitation program, should be based on conditions prevailing in normal times,—has been made annually by the Bureau of Statistics and Information of the State Department of Labor and Industry. Consequently all such data can be made of maximum use by the Bureau of Employment of the same Department in giving aid to the national authorities in placement work.

Such investigations would be a guard against placing too many handicapped men in the same plants or the same occupations.

Active co-operation of employers as individuals and as representatives of employers' associations and of employes as individuals and as representatives of labor organizations should be sought by the

employment authorities in every community for a proper development, in every detail, of the great project of re-absorbing physically handicapped men in industry.

Complete co-operation of employers will mean that the disabled man will have every opportunity, in an industrial plant, to learn to perform every process, included in the task or trade for which the man desires to fit himself and thus prevent the man from becoming a mere production worker in a single plant process instead of a properly trained mechanic who can meet competition of able-bodied workers when the stress of economic pressure and patriotic appeals of war times are at an end.

Complete co-operation of employes, with whom the disabled man will work, will mean that during his shop training he will have wholehearted aid and instruction from his fellow workers. Such co-operation will work for early, satisfactory adjustment of such questions as apprenticeship, wage scale and similar vitally important factors of employment in establishments manned by organized labor.

Survey, Placement, and Follow-up Divisions.

Disabled soldiers and sailors may not be haphazardly considered for employment in groups classified as to either disability or training.

Each case must be considered separately and individually and great care must be exercised in placing each trained disabled man in employment.

Consequently the most important department of an employment organization, which is properly to place trained disabled men at work, is the field department which should include a survey division, a placement division and a follow-up division.*

The officers of these divisions, working chiefly outside the office, in constant contact with employers and employes, should be men of sound judgment and industrial experience.

Surveys of Industrial Plants.

The first duties of the survey officials will be to learn from the vocational education authorities the types of training courses to be completed in the near future by returned disabled men and to visit, in the community, industrial plants where it is probable that men so trained could be placed for final shop training or employment.

At each plant, the survey official should first interview the owner or manager, outline, if necessary, the project of replacing disabled soldiers and sailors in industry and upon obtaining co-operation of

*Such organization is being efficiently developed throughout Canada by the Invalided Soldiers' Commission of the Canadian Department of Soldiers' Civil Re-establishment.

the plant management ascertain the probable number of suitable men who could be placed in the various plant departments. A detailed survey of the shop conditions and processes in each department of the plant as to the possibilities for employment of men handicapped by various types of disability should then be made.

It is obvious that the survey man should be a keen observer, of a high order of intelligence with practical mechanical or technical education and with considerable knowledge of the physical limitations resulting from various types of disability.

In Canada, the Invalided Soldiers' Commission of the Department of Soldiers' Civil Re-establishment has evolved, after months of experience, three form sheets used by their survey officials in investigating possibilities for final training and employment of disabled men in industrial establishments. These three forms, known as sheet A, sheet B, and sheet C, are all used in a single survey. Upon sheet A, the survey official specifies the name. location, officials and departments of the plant to be surveyed and, as an important detail, designates the easiest way to reach the factory. Sheet B, when completed presents virtually an analysis of the various occupations in the plant, numbers of men employed in each occupation, rates of wage, hours of work, nature of work and other similar details. Upon sheet C, the survey official specifies the class of work that could be performed by returned disabled men handicapped by one or more of seventeen separate disabilities.

These sheets are herewith reproduced.

SHEET A.

.....19....

Industrial Survey for determining the openings for training disabled soldiers in industries.

City Unit

Firm Name

Street

Manufacturing

General Manager

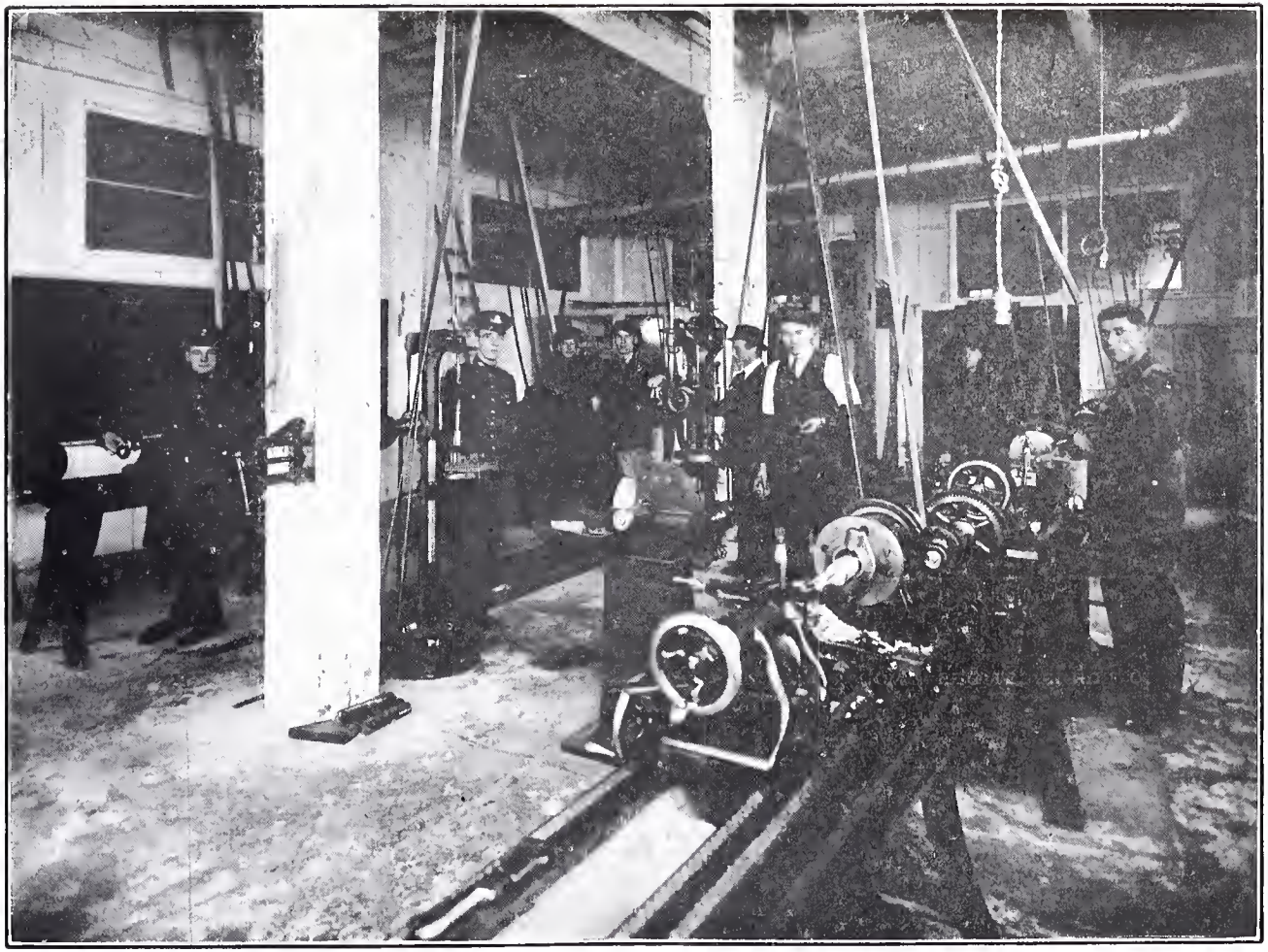
Treasurer

Supt.

Foreman	Dept.	Section Sheets

Vocational Officer. Investigator.

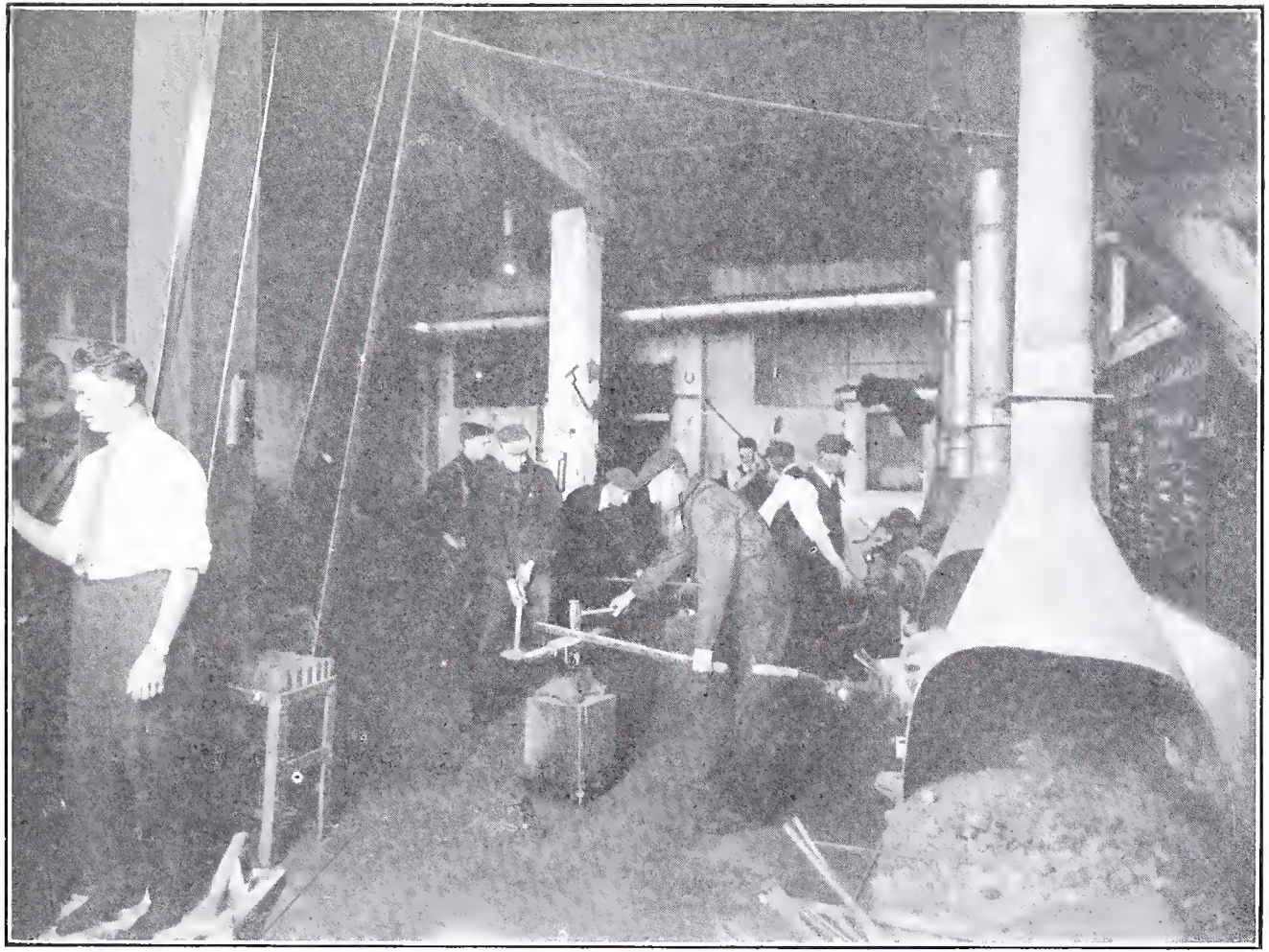
Easiest way to reach factory



Invalided Soldiers' Commission, Canada.

ENTERING A MACHINE TRADE

Practical operation of the lathes, drills and punches is combined with class room instruction in preparing returned soldiers for work in the machine trades.



Invalided Soldiers' Commission, Canada.

AT FORGE AND ANVIL

Blacksmithing is an occupation suitable only to returned soldiers whose disabilities have not greatly impaired their physical strength.

SHEET B.

Division of Labor. Nature of Job. Classification of Grades in Various Divisions of Labor and permanency of employment taken from the Pay Roll and information obtained from the Chief Officers of the Concern.

Div. of Labor — Foreman

No. Employed — Disabled Workers

Rate per day or hour — Hours Worked

First Class — Second Class

Nature of Job

Training Needed — Time to Train

Could place

How acquired

Work most closely related

Advanced from — Advanced to

Experience needed

Tools used

Could a start be made in a school

Education given in School

Equipment for School

(Date of Survey.) Investigator.

SHEET C.

.....19....

General Class of Disability	Could do this work having
Lung Wounds	
Lung Diseases	
Head	
Neck	
Ear	
Eye	
Shell Shock	
Hernia	
General Debility	
Abdomen	
Alimentary Canal	
Kidney	
Skin	
Miscellaneous	
Leg	
Toes	
Arms	

Typical Surveys Reproduced.

Through courtesy of the officials of the Invalided Soldiers' Commission of the Department of Soldiers' Civil Re-establishment of Canada, it is possible to reproduce in following pages specimen copies of typical surveys, as made by survey officials in Canada from the data collected in several plants.

These typical surveys may here serve to outline clearly to employers of Pennsylvania what data must be obtained in each plant in order to fit properly a man disabled in war to an industrial task.

All information collected in industrial plants by survey officials is confidential. In this connection, the following statement, made by an official of the Canadian Invalided Soldiers' Commission, may be herewith presented.

In each case the Industrial Survey representatives have been instructed to assure the President, General Manager, or Chief Executives of each concern surveyed that the information collected and tabulated is absolutely confidential and will be used only by the Vocational Branch of the Department of Soldiers' Civil Re-establishment. As a result, a much closer contact with manufacturers and employers of labor has been obtained, and we have had their assistance and co-operation and the freedom of their factories while making the surveys. Up to the present time there has not been a single case where their confidence has been misplaced. Furthermore, in those factories where we have placed disabled men for the completion of their re-educational course, we have received the same assistance and co-operation. When this contact with the industries has once been established by the Vocational Department it is kept up by frequent visits and interviews, a member of the Industrial Survey Branch acting as an intermediary agent. This personal contact with the heads of the concern has been a vital factor in the success of the work.

As far as possible we have avoided asking manufacturers and employers of labor to fill out forms and questionnaire sheets, realizing that the busy manufacturer has little time to spare for that himself and that invariably he passes them over to a clerk, a stenographer, or subordinate official to fill out. In sending Industrial Survey representatives to manufacturing establishments and factories where considerable numbers of men are employed, it has been found that unless these representatives have had technical and industrial experience and are thoroughly familiar with general processes of manufacture, they are unable to analyze the various occupations in detail, and consequently the value of the survey is lessened if not destroyed. Our most successful industrial surveyors have been returned men who were connected with construction or engineering work prior to their enlistment and were in these battalions on active service.

DOMINION OF CANADA
DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT

Minister
The Hon. Sir James A. Lougheed, P. C., K. C. M. G.

Parliamentary Secretary
F. B. McCurdy, M. P.

Deputy Minister
S. A. Armstrong, Esq.

INVALIDED SOLDIERS' COMMISSION

Hon. F. B. McCurdy — Chairman
F. G. Robinson, Esq. — Acting Director
E. H. Scammell, Esq , — Secretary

VOCATIONAL BRANCH

W. E. Segsworth, Director of Vocational Training,
22 Vittoria Street, Ottawa, Canada.

SURVEY OF A LARGE METAL INDUSTRY.

INFORMATION FROM ASSISTANT GENERAL MANAGER, CHIEF ENGINEER, WORKS MANAGER, MECHANICAL SUPERINTENDENT AND EFFICIENCY ENGINEER.

INDEX.

General
Machine Shop
Ornamental Iron Dept.
Bronze and Metal Finishing
Tool Makers' Dept.
Draughting Room
Blacksmith Shop
Pattern Making Shop
Boiler Shop

NUMBER OF SUITABLE MEN CAN PLACE.

To train for Machinists, ... 20 Men
To train for Tool Maker, ... 1 Man
To train for Ornamental Iron Mechanics, ... 4 Men
To train for Bronze Chasers or Finishers, ... 2 Men
To train for Pattern Maker, ... 1 Man
To train for Ornamental Iron Draughtsman, ... 1 Man
To train for General Blacksmiths, ... 2 Men
To train for Boiler Maker, ... 1 Man

GENERAL

1. Interview with Mr. ————, Assistant General Manager, was most satisfactory. He assured me that the Company were not only willing to assist in every way, and all things being equal, to give the returned men the preference, but that they would readily stretch a point at any time to accomplish this. He instructed Mr. ————, Works Manager, to afford us every opportunity, and if necessary furnish us with a guide and any information he had that might be of assistance to us on making a survey of the plant.

2. On visiting the Works, Mr. ————, expressed his entire sympathy with the Movement, and was quite sure that there were a number of desirable openings, where the returned soldier could be placed to learn a trade that would assure him of permanent employment in the future.

3. Mr. ————, Mechanical Superintendent, was even more sanguine than Mr. ————, and expressed the opinion that he could place many partially disabled soldiers as apprentices in the various departments. He further went on to say that any returned man or men who were placed with the ———— Company would be assured of fair treatment, and be given every opportunity to become proficient mechanics. Mr. ———— then introduced me to Mr. ————, the Efficiency Engineer, who escorted me through the Machine Shops and explained to me the workings of the various departments.

* * *

MACHINE SHOP

4. This Shop is one of the largest and most modern and eomplete in the Couutry. It is four hundred feet long, one hundred and ten feet wide and fifty feet high, with a workiug gallery round two sides and one end. The Shop is operating entirely by elcctricity, well heated, lighted aud ventilated. The air is good, and altogether working conditions are of the very best. The building is of steel and brick, most of the floor being of heavy wood, making it easy on men standing.

5. The Shop eontains over six hundred separate maehines, including Boring Machines, Steel Planers, Slotting and Shaping Machiues, Milling Maehines, Drilling Maehines, Threading Maehines, Grinding Maehines, Lathes, Loeomotive Tire Lathes, Steel Hammers, Shearing and Cutting Maehines, and these maehines are in endless variety from the largest to the smallest.

6. The Shop is divided into departments as follows:

Lathe and Boring Mill Department.
Planing, Slotting and Milling Department.
Threading Department.
Motion Fitting for Loeomotive and Marine Engines Department.
Marine Engine Ereeting Department.
Loeomotive Ereeting Department.
Pipe and Steam Fitting Department.
Pump and Brass Finishing Department.
Tool Room Maehine Shop.

7. The shop employs from seven hundred and fifty to one thousand men, ineluding helpers, aeeording to eouditions, and at least twenty apprentiees can be plaeed to advantage at any time.

8. The hours of labor in the shop are nine hours per day, with time and a half for overtime. The wages paid range from ———— per hour, depending entirely upon the efficieney of the worker.

9. Mr. ————, was perfeetly eonfident that any man of average intelligenee would beeome profieient to earn ———— au hour or more, after six months traiuing along these lines.

DISABILITIES.

LUNGS:
Wounds or diseases of the lungs, unless of a serious nature would not prevent a man becoming profieient.

HEAD:
Average intelligenee is required, and memory must be normal at all times.

NECK:
Stiffness or drawing of the cords of the neek would not be any drawback.

EARS:
One good ear would be necessary.

EYES:
The use of one eye is all that is neeessary.

SHELL SHOCK:
Unless of a serious nature would not be a drawbaek.

HERNIA:
One of the best meehanies in the shop is suffering from hernia and wears no applianees.

ABDOMEN, KIDNEYS, ETC.
Unless serious, not neeessarily a drawbaek.

SKIN:
Unless of a very serious nature, no drawbaek.

LEGS:
The legs and feet are not used in operating maehinery, therefore an artifieial leg need be no drawbaek, although a man must be able to staud at his work.

ARMS:
Two good arms are very desirable, yet one of the best tool makers in the Shop has a good right hand with a hook on the left, and earns ———— per hour.

DESIRABLE EXPERIENCE:
Use of tools sueh as plumbing, tin-smithing, hardware, etc., ete.

START IN SCHOOL:
Not essential, but if any school training is given, a knowledge of mechanical drawing is desirable and very useful; this often enables a man to take a position as a Foreman or sub-foreman, reducing the manual labor and adding to his earning capacity.

* * *

ORNAMENTAL IRON DEPARTMENT

1. The main building is 300 ft. x 80 ft. two stories of brick and steel, floors are of wood, is exceptionally well lighted, heated, and ventilated. The air is good, and the noise, generally speaking, is slight and not at all nerve-racking. Altogether the working conditions could not be very well improved upon.
2. The Shop is fully equipped with modern machinery for cutting, bending, breaking and shaping the various metals used. The machinery is electrically driven.
3. Here is manufactured, fabricated, put together and finished, all classes of ornamental iron bronze and brass, including bank fixtures, ornamental iron stairways, elevator enclosures, window grills, etc., etc. Also light structural work such as small angle iron frames, channels, T irons, etc.
4. This department usually employs over two hundred men, and at present has about one hundred and fifty at work.

HOURS OF LABOR:
Nine hours per day.

RATE OF PAY:
———————

DISABILITIES:
The man would require two good hands, and arms, and at least one good eye. Other disabilities, unless of a serious nature, would not prevent a man from becoming proficient.

TIME OF TRAINING:
Eight to twelve months should make a man thoroughly proficient, but a man with previous experience at a kindred trade such as an engineer, machinist or tool maker, should become proficient after four months training.

* * *

BRONZE AND METAL FINISHING

1. Mr. ————, the Foreman, is an old Imperial Cavalryman, and has two returned soldiers, one with a shrapnel wound in the shoulder, that he took in and put to work four months ago with no previous experience, one being a bricklayer. These men are now proficient filers and cleaners, earning ———— per day with good prospects.
2. Bronze Chasers or Finishers are in demand, and this is very desirable and suitable work for a partially disabled man, being practically all bench work, and a great part of the time can be spent sitting down.
3. It is essential that these men have a taste for the artistic and preferably a knowledge of drawing. Past experience as a Silversmith, engraver, or a Wood-Carver, would be of great assistance.
4. The tools used are very fine chisels and small hammers. The work altogether is very light.
5. If school training is given, free hand drawing or modeling is desirable.

WAGES:
———————

TIME OF TRAINING:
Nine months would make a suitable man proficient.

DISABILITIES:
Two good arms and hands are required, one good eye, steady nerves and normal memory is required.

NUMBER COULD PLACE:
Two desirable men could be placed for training.

* * *

TOOL MAKERS' SHOP

1. In this department there are fifty small lathes and drills, all electrically driven. Thirty to forty men employed.

HOURS OF LABOR:
Nine hours per day.

WAGES:

DESIRABLE EXPERIENCE:
Previous experience desirable. Anything connected with machinery or around engines of any kind, use of mechanical tools or automobile work.

2. The work consists of operating small lathes or drills, and is not heavy in any sense of the word.

DISABILITIES:
Two good arms and hands are required; at least one good eye, steady nerves and normal memory are required.

TRAINING:
If school training is given, should be Mechanical Drawing and a knowledge of Mathematics.

NUMBER COULD PLACE:
One suitable man could be placed to train for tool maker.

TIME OF TRAINING:
Eight months should make a man proficient.

* * *

DRAUGHTING ROOM

1. This is a first class, perfectly equipped draughting room, with a head draughtsman in charge, and at present four qualified Ornamental Iron draughtsmen are employed.

2. There is accommodation in this department for from twelve to fifteen draughtsmen when conditions warrant this number.

3. Qualified Ornamental Iron Draughtsmen are usually in demand. In fact, this Company has had to import them from Chicago, quite recently. The work is light, clean, and most desirable, the conditions and surroundings being those of the office rather than the shop.

HOURS OF LABOR:
Seven to eight hours per day.

WAGES:

EXPERIENCE DESIRABLE:
It is essential that these men have at least a thorough common school education, and preferably a high school. Artistic taste and a liking for drawing is most necessary, and a knowledge of architectural or mechanical drawing would be of great assistance. Experience in general building, construction, or of structural steel, would do in place of the above qualifications.

DISABILITIES:
Good sight is necessary; two good hands and arms are necessary; steady nerves and good memory are necessary. Other disabilities, unless of a serious nature would not prevent efficiency.

NUMBER COULD PLACE:
Could place one desirable man for training.

TIME TO TRAIN:
One year. Could place one more man with some experience for further training or improvement. A man of the latter class should be able to earn a living wage after six months or less, depending on past experience.

* * *

BLACKSMITH SHOP:

1. The nature of this work is such that only a strong, heavy man could engage in it. The only possible candidate for it would be a man whose hearing was affected, but was normal in all other respects.

2. The degree of intelligence required is perhaps less than in many other lines of work.

3. The working conditions are difficult. Gas and smoke pervade the atmosphere.

4. Mr. ———— would be willing to place any men who would be able to conform to the above requirements, though the place is obviously unsuited to men with the usual disabilities.

DIVISION OF LABOR:
Blacksmith Shop.

FOREMAN:
———————

NUMBER EMPLOYED:
55.

RATE PER HOUR:
———————

HOURS WORKED:
Nine hours per day.

DISABLED WORKERS:
None.

NATURE OF WORK:
Forging by hand and machine of heavy and light forgings, steam hammer forgings, belt forgings. There are no disabled workers here at present. There is only one sitting job in this department: viz, running a steam hammer; this is done by boys and the rate of pay is low.

TRAINING NEEDED:
None outside of actual work in shop.

TIME TO TRAIN:
Three months.

COULD PLACE:
Two.

DISABILITIES:
As stated, a man must be normal. The only disabilities possible in respect to this work would be affected hearing, and mild forms of non-contagious skin diseases.

* * *

PATTERN SHOP

1. Room 80 ft. x 40 ft., well lighted, heated and ventilated. Equipped with circular saws and planer for wood-working, electrically driven.

2. This is light inside work and is particularly suitable for a man with some wood-working experience, such as Carpenter, Cabinetmaker, Boxmaker, Furniture Manufacturer, etc.

In conversation with Mr. ————, who has for many years been foreman in the Pattern Shop, he expressed the following views relative to disabled soldiers taking up this vocation.

1. It would be useless to start a man in this line, over the age of twenty-five years. The age of eighteen to twenty-one would be more satisfactory.

2. A man could not step right into this work without some preparation for it.

3. Before a man decided to take this up, he should be given the opportunity of investigating the working conditions and seeing for himself what is going to be required of him.

4. Mr. ———— would prefer a man who has worked at carpentering or cabinet making trade.

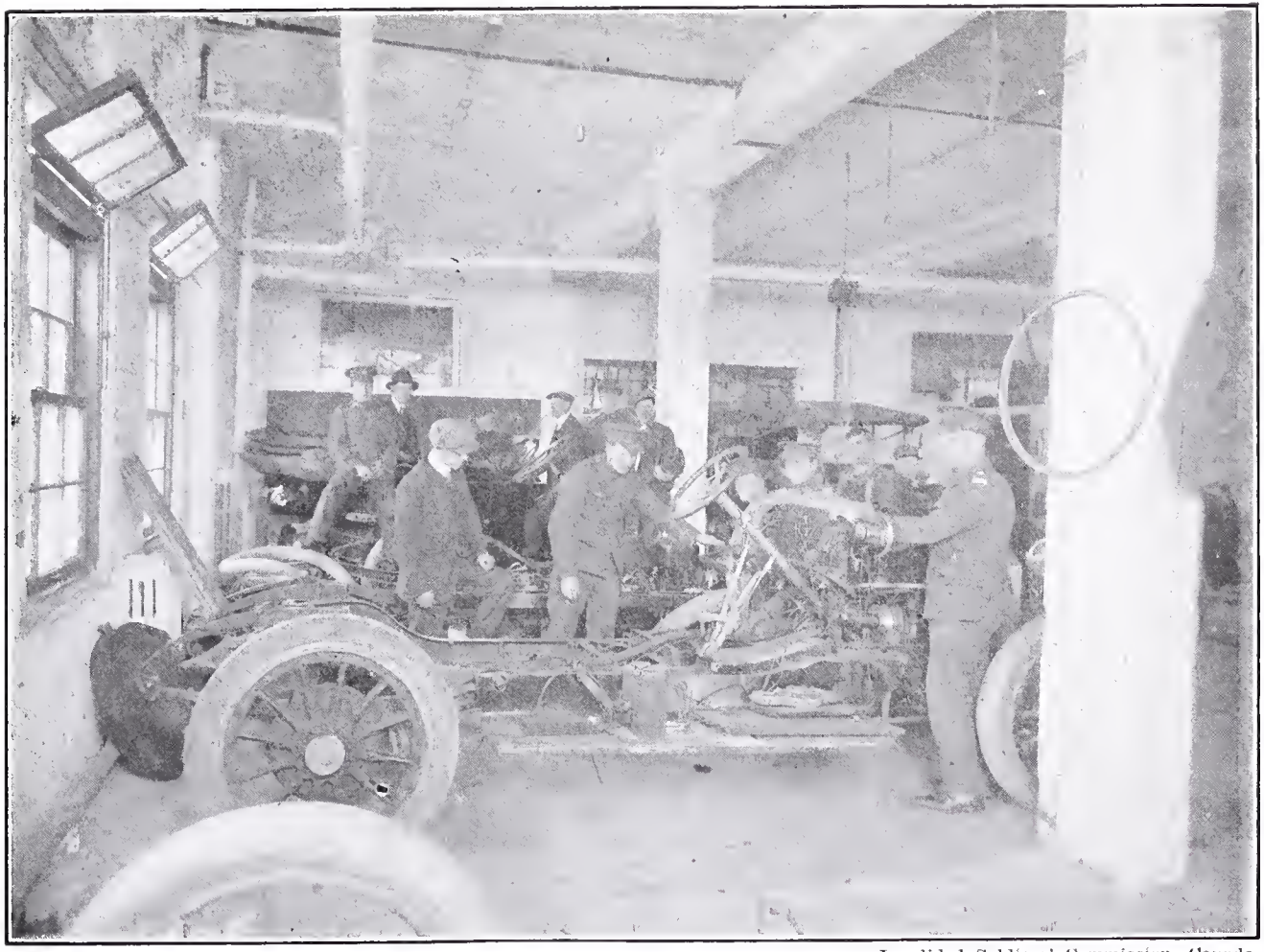
5. Only a pattern maker would be of the slightest use as an instructor in any class of this kind.

NUMBER EMPLOYED:
20.

DIVISION OF LABOR:
Pattern Making.

RATE OF PAY:
———————

HOURS WORKED:
Nine hours per day.



Invalided Soldiers' Commission, Canada.

STUDYING MOTOR MECHANICS

A thorough course on the subject includes the complete tearing down and rebuilding of several types of automobiles.

Invalided Soldiers' Commission, Canada.

REPAIRING AND TESTING ELECTRIC LAMPS

Electrical work attracts many returned soldiers who have had previous experience in wiring or line work.

NATURE OF WORK:
The work that the Pattern Maker does is as follows: The foreman hands the pattern maker a blue print of each pattern to be made. This is all the instruction that the pattern maker receives. He must be able from the blue print to go to work and construct out of wood, the pattern according to the dimensions, etc., of the drawing. Each pattern maker has a bench of his own. He does not work on any one machine continuously, but must be able to take his work to any one of the wood-working machines in the shop according to various operations that may be required. Very little sitting would be possible at this work. The articles handled are light. There are no disabled workers in this department at present.

TRAINING NEEDED:
Training necessary to become a satisfactory workman would be several months' instruction by a pattern maker in a technical school or class, and a working knowledge of mechanical drawing.

TIME NECESSARY:
From eight to ten months training is necessary.

CAN PLACE:
One. Mr. ————, who is in sympathy with this work would be willing to co-operate in placing one or more men, but could not take a man with no previous experience in wood-working.

EXPERIENCE NEEDED:
Reading drawings, working in hard and soft woods, using power machines and hand tools.

WORK MOST CLOSELY RELATED:
Would be work such as interior trimming, cabinet making, etc.

TOOLS USED:
All the usual carpenter's tools and wood-working machinery such as rip saws, sizing machines, smoothing and edging planes, sanders, etc.

EDUCATION DESIRABLE:
A start in this work would be best made in school. A fairly high degree of intelligence, and a fair education is necessary to successfully handle this work. School work would cover a brushing up in plain arithmetic and elementary geometry.

DISABILITIES.

LUNG WOUNDS AND LUNG DISEASES:
The working conditions are of the best. The air is good. There are no obnoxious gases or odors. The building is light and warm. The work does not require any heavy physical exertion, and should not aggravate lung trouble.

HEAD:
In handling power machines, the workman should be normal at all times.

NECK:
Neck wounds would not decrease the workman's efficiency.

EARS:
Sufficient hearing to hold a conversation is all that is necessary.

EYES:
Good eye-sight is required in reading plans, and in working up the finer patterns.

SHELL SHOCK:
It would not be wise to put a man at any power wood-working machine, who would be liable to be attacked with dizziness or fainting spells. There is not enough noise in the shop to bother a man suffering from shell shock.

HERNIA:
No heavy lifting is required and this disability would not interfere.

ABDOMEN, ALIMENTARY CANAL AND KIDNEYS:
The work should not in any way aggravate these disabilities.

SKIN:
There is nothing in the nature of this work which would have an injurious effect to non-contagious skin diseases.

LEGS:
The loss of one leg should not interfere, providing the workman is able to stand for fair periods of time and walk from bench to machines.

TOES:
Flexion of the toes is unnecessary.

ARMS:
Practically all this work is done with the arms, and fingers, which must be normal.

* * *

BOILER SHOP

1. In conversation with Mr. ————, he stated that it could be obviously seen that the possibility for placing disabled men in the boiler shop was small. He expressed himself as very willing to co-operate with the department if in their judgment men who were suitable and desirous of following that line were available.
2. The Shop conditions are severe. Gas, smoke and noise are prevalent. The floor is rough block.
3. The nature of this work is such that only a strong, active man could engage in it. The only physical disabilities permissible would be deafness and non-contagious skin diseases.
4. The operations with the exception noted below are such that a man does not do one job alone, but may be called on to do various work, depending on what is being constructed in the shop at that particular time.
5. Exceptions to the above in this Shop would be:
   Crane Man.
   Drill Press Operators.
   Bolt Threading Machine Operators.
   Boring Mill Operators.

A considerable amount of oxy-acetylene cutting is done, but the men who do this work are supplied by the firm which furnishes the gas and appliances.

6. The information that follows is divided, therefore into two categories:
   1. General Boiler Shop Work.
   2. Boring Mill and Drill Press Operators, Crane Men, Bolt Threading Machine Operators.

* * *

DIVISION OF LABOR:
General Boiler Shop Work.

FOREMAN:
————————

NUMBER EMPLOYED:
67.

DISABLED WORKERS:
None.

RATE OF PAY:
————————

NATURE OF WORK:
Working up boiler plate, machine punching, press drilling, gang drilling, boring, rolling, acetylene cutting, rivetting, using compressed air tools, laying out work, assembling, drawing boiler tubes.

TRAINING:
In shop.

TIME TO TRAIN:
Six months.

COULD PLACE:
One man.

WORK MOST CLOSELY RELATED:
Foundry work, machine work, blacksmithing, structural iron work.

EXPERIENCE NECESSARY:
Four months in shop.

DISABILITIES.

LUNG WOUNDS AND LUNG DISEASES:
Would prevent on account of gas and smoke.

HEAD:
Any head trouble would prevent.

NECK:
Would prevent men from looking up as is continually done when the traveling crane handles heavy plates.

EAR:
If the workman's hearing were impaired even to a degree bordering on total deafness, it would not prevent him from engaging in this work.

EYE:
The sight of one eye would be sufficient.

SHELL SHOCK:
The noise would prevent a man from learning boiler work if sufferiug from shell-shock.

LEGS, ARMS AND TOES:
Requires to be normal, except for crane men, drill press operators, bolt threading machine operators and boring mill operators.

* * *

DIVISION OF LABOR:
Bolt threading machine work in Boiler Shop.
Drill press work in Boiler Room.
Boring mill work in Boiler Shop.
Crane man in Boiler Shop.

FOREMAN:
_____

NUMBER EMPLOYED:
Six.

RATE OF PAY:
_____

HOURS WORKED:
Nine hour day.

NATURE OF WORK:
Operating the above machines.

TRAINING NEEDED:
In shop.

TIME TO TRAIN:
Four months.

COULD PLACE:
One man, provided the foreman decides he is suitable on interview.

WORK MOST CLOSELY RELATED:
Blacksmith work, machine shop work, power machines.

EXPERIENCE NECESSARY:
None essential, though familiarity with metal machines desirable.

EDUCATION NECESSARY:
A limited education is all that is necessary.

COULD A START BE MADE IN SCHOOL:
Only in class in machinists' practice.

DISABILITIES.

LUNG WOUNDS AND LUNG DISEASES:
Workmen could not handle this if so affected.

HEAD:
Must be normal.

NECK:
Workmen would be required to look over head at crane.

EAR:
Could be almost deaf.

EYE:
Fairly normal eyesight necessary.

SHELL SHOCK:
The noise would prevent anyone who had suffered from shell shock in working at this shop.

HERNIA:
Milder forms of hernia would be permissible.

SKIN:
Non-contagious skin diseases permissible.

LEG:
If the operator could stand and move short distances of about five yards occasionally, he could do this work.

ARMS:
Normal necessary.

Survey of Motor Plant

This is a standard assembly plant for motors and trucks. The present output of this plant is ———— cars per day, but the capacity of the plant can be increased to ———— cars per day.

The Company gave me every facility for making the survey. Mr. ————, the Factory Superintendent, being especially helpful.

The work of the plant is spread over 12 operating departments not including the office and sales departments. These departments are:

(1) Chassis Assembly.
(2) Body Building.
(3) Body Trimming.
(4) Body Painting.
(5) Body Assembly.
(6) Carpenter.
(7) Enamelling.
(8) Maintenance.
(9) Radiator Repair.
(10) General Repair.
(11) Inspection.
(12) Stock.

The first assembly towards the make up of the car is undertaken in the Body Building Department.

BODY BUILDING

This work is not in the class of skilled labor. Any man who is able to use a screw driver and hammer can do this work. The men work in teams of from two to four men, and each has a set series of operations to perform. There are 22

men at present employed in this Department. Twelve of these men questioned as to previous occupations gave the followiug information:

3 Clerks.
2 Janitors.
2 Carpenters.
1 Farmer.
1 Farm laborer.
1 Store-keeper.
1 Roofer.
1 Grocer.

This list gives a good general idea of the qualifications of most of the help employed in this factory.

TRAINING REQUIRED:
None, given in factory.

RATE OF PAY:

ABILITY REQUIRED:
Full use of both hands, arms, shoulders, legs, and back. Fair eyesight and no abdominal wounds.

DISABILITIES ALLOWED:
Defective hearing, loss of one eye, head and neck wounds, lung and gas cases or minor injuries to legs.

TOOLS USED:
Hammers and punches, power and hand screw-driven, and power and hand drills.

* * *

BODY TRIMMING:
In this Department the upholstering is put into place. This again can be done by unskilled men as it all comes ready made up, and simply requires tacking into place.

TRAINING REQUIRED:
None.

RATE OF PAY:

ABILITY REQUIRED:
Full use of hands, arms, shoulders, back and good eyesight.

DISABILITY ALLOWED:
Loss of one leg, defective ears, slight neck and head wounds.

TOOLS USED:
Tack hammer, scissors and knives.

* * *

BODY PAINTING:
Here the bodies are sanded, rubbed down, cracks and scratches filled, primed, second coated, finished and varnished. Nine men are employed here and with one exception are unskilled men. The one trained painter is employed on painting frames, and door trim. All other parts of the bodies are painted, and varnished by means of gravity sprays and require no special skill in handling.

TRAINING REQUIRED:
None.

RATE OF PAY:

ABILITY REQUIRED:
Full use of both hands, arms, eyes. Would not recommend this Department for lung or gas cases.

DISABILITIES ALLOWED:
Defective hearing, loss of one eye, head and neck wounds, leg injuries, loss of a finger, shell-shock and chest and abdomen wounds.

* * *

BODY ASSEMBLY:

In this Department the bodies are fitted with wind shields, tops and lamp brackets. All light work with the exception of one operation which necessitates the use of an electric drill, weighing 25 pounds; continuons nse of this tool is very hard on the arms, hands, shoulders, chest, back and legs. Mr. ————, the Department Foreman, informed me that he always selects a strong type of man to use the drill and could use men with disability on the other and lighter operations.

TRAINING REQUIRED:

None.

RATE OF PAY:

ABILITY REQUIRED:

Full nse of hands, arms and eyes.

DISABILITY ALLOWED:

One stiff leg, defective ears, shell-shock, gas and lnng, minor back, chest and abdomen wounds.

TOOLS USED:

Light hammers, wrenches, tack hammers and one electric drill.

* * *

CHASSIS ASSEMBLY:

This department employs more men than any other one department. The Foreman prefers to employ men who have had some mechanical training, bnt such training is not essential, owing to the simple nature of the nnmber of operations allotted to any one man. This assembly is sub-divided into ronghly 14 sub-assemblies and these again are fnrther split np into from 3 to 6 assemblies thus reducing the number of operations entrusted to one man. Some men that I observed had only two nuts to screw down into place. The most complicated work being done by any one man was the assembly of the steering post, this involved the collection of six parts and the tightening of screws.

TRAINING REQUIRED:

Some training as a machinist's helper, electrician, pipe fitter or similar occupation is helpful, but not necessary. Several men I spoke to had no previous training with the tools they were using.

RATE OF PAY:

ABILITY REQUIRED:

Full nse of both hands, arms, shoulders, back and eyes. Men who have had severe abdominal wonnds should not be employed here as there is occasional heavy lifting.

DISABILITY ALLOWED:

Minor leg injuries, gas, slight shell-shock, lung, defective hearing and minor head and neck wonnds.

TOOLS USED:

Hammers and punches. Air operated tools weighing about 25 pounds, electric drills of same weight, screw drivers, wrenches, breast drills and pliers.

* * *

INSPECTION:

The Chief Inspector is a trained inspector. The other five inspectors are men who have been promoted from the various assembly departments in this factory. The first inspection is the inspection of the engine before it is fitted on the chassis. The others take place after the car leaves the assembly line.

RATE OF PAY:

TRAINING REQUIRED:

Can only be obtained in this factory.

* * *

ENAMELLING:

The work in the department is of a fairly heavy nature. The parts enamelled being fenders, running boards, engine hoods, and radiator shells. Three men form a team. The first man hands the part to the dipper; the dipper dips the part in the enamel tank, and then passes it to the rackman; the rackman hangs the part up on the rack. When they are not dipping, the men are occupied in preparing the parts for dipping. This consists in first rubbing them down with steel wool and emery paper, next the parts are dipped in a tank of gasoline and wiped off, they are now ready for enamelling.

After a rack is filled, it is hauled into the oven and left to bake for one hour. The hauling of these racks into the oven is heavy work and requires the full strength of six men pulling on the draw ropes. The Foreman said he could use men with minor leg injuries, but personally, I rather doubt if a lame man could do the work.

The gas fumes from the baking ovens were very bad while I was there, and would make it impossible for gas or lung cases to work in this department.

TRAINING REQUIRED:

None.

RATE OF PAY:

ABILITY REQUIRED:

Full use of hands, arms, shoulders, back and legs.

DISABILITY ALLOWED:

Loss of one or two fingers on either hand, loss of one eye, defective hearing, minor neck and head wounds.

NOTE:—Positively no gas, lung, or shell-shock cases should be employed in this department. Explosions sometimes occur resulting in small fires that have to be quickly handled.

TRAINING REQUIRED:

None.

* * *

RADIATOR DEPT.:

To enable the firm to classify this department, they call it the radiator repairs. As a matter of fact radiator repairs are the least of its activities. This department is a combined repair and maintenance department, and all the men employed here must be skilled tinsmiths or sheet metal workers. The department usually employs an average of five men all the year round.

The work done here is the repairing of such radiators, gas tanks, fans, etc., as have been damaged in the factory. New work consists of making small sheet metal boxes for containing nails and screws, tin drip pans for the paint and varnish department, sheet metal tool trays and funnels for paint tanks. This is the only department where all skilled help is required.

TRAINING REQUIRED:

Men to work here must have a thorough training as tinsmiths or sheet metal workers. These men are expected to be able to handle any kind of a repair job that comes within their province and also be able to make any kind of sheet metal container or receptacle the requirements of the factory may call for. Mr. ——— did not think men direct from the schools could possibly be used by him, neither could he give them any final practical instruction for the reason that his department is always very busy and like the rest of the factory, he has to work as close to schedule as is possible. There were five men in this department on the occasion of my visit; two of whom were Returned Soldiers.

* * *

REPAIR:

This is a small department, employing six men. With the exception of the blacksmith who is also the tool maker, there is no call for highly trained men provided they have some experience as machinists or auto repair men. Mr. ——— informed me that if he needed men he would be glad to take men direct from our Motor Mechanics Class. The repairs undertaken by this department are all in connection with defects that the inspectors detect in the factory equipment. No outside repairs are taken in that can be handled by service stations.

TRAINING REQUIRED:
Blaeksmith must be a thoroughly competent blaeksmith and tool maker.
Repair-man should have had some experienee as maehinist's helper, garage man, auto drivers and auto repairman.

RATE OF PAY:

ABILITY REQUIRED:
Good eyesight and hearing, use of hands, arms, back and knees.

DISABILITY ALLOWED:
Minor leg, neek and head wounds, loss of two fingers on left hand, gas, shell-shock.

TOOLS USED:
Hammers, ehisels, files, power drills, screw-drivers, wrenehes and lathe tools.

* * *

CARPENTER:
A small department employing three men to do rough work about the factory and also some erating and boxing required.

TRAINING REQUIRED:
Any man handy with a hammer and saw could do all that is required.

RATE OF PAY:

ABILITY REQUIRED:
Use of hands, arms, eyes, legs and baek.

DISABILITY ALLOWED:
Minor head, neek, leg, ear and abdomen injuries, gas and shell-shoek.

* * *

GENERAL REMARKS:
This factory offers a good opportunity to the unskilled or semi-skilled Returned Soldier of praetically constant employment at a very favorable rate of pay.
Three of the Departmental Foremen I spoke with had no previous training in Automobile or Meehanieal work before eoming to work for the ———— Company and had been promoted to their present positions from the ranks of ordinary assembly men.
From these examples, it is easy to see that there is seope for any man who will apply himself to his work.

Report on Prospects of Employing Disabled Soldiers as Typewriter Repair Men

GENERAL REMARKS:
The one outstanding feature of this field is the dearth of trained men. All of the Companies' Managers state that there would not be the slightest diffieulty in finding positions for trained men. Against that eomes the faet that the wages are low, but with the commission they are allowed would make a fair living wage, providing they were willing to get after the business.
The employment would be permanent all year and eontinues to grow larger.
Again since the dictaphone is eoming into use another field is being opened and there is no doubt that a man trained in the repair of both these very necessary offiee applianees should make an exeellent living and never be lacking a position.

NUMBER EMPLOYED:
40 in the Provinee.

RATE OF PAY:
$16.00 to $25.00 per week, and 10 per cent. commission on all repair work brought in or new parts sold.

HOURS WORKED:
8½ hours per day or in some cases a man on commission can work his own hours.

NATURE OF JOB:
Repairing, cleaning and inspecting typewriters and dictaphones. When a typewriter is brought in for cleaning and repairing, it is taken apart and all parts washed and brushed separately with gasoline; it is then reassembled and repaired. The work is at no time heavy, but it must be accurate in order to have the typewriter in good condition. The inspection is done by these repair men and is carried out in the office when the machine is in use. In case of repairs being necessary, it is brought back to the repair shop, and the repair man is entitled to 10 per cent. of the amount of the value of the repairs done in addition to his salary.

TRAINING NEEDED:
Pulling down, assembling, adjusting and washing of the typewriter also a certain amount of salesmanship.

TIME TO TRAIN:
6 to 8 months.

COULD PLACE:
3 men and possibly more.

HOW ACQUIRED:
In the repair department of the various typewriter concerns of the city.

ADVANCED FROM:
Repair man.

ADVANCED TO:
Salesman and local manager.

EXPERIENCE NEEDED:
Some knowledge of mechanics and also of electrical appliances where possible.

TOOLS USED:
Screw drivers, pliers, hack saw, bar bender, type cutters.

COULD START BE MADE IN SCHOOL:
No.

DISABILITIES:
No man with stiff arms, hands or fingers or any part of arm, or hand missing could make a success at this work.
Severe nervous cases should not take this work up on account of the fine adjusting to be done. Good eyesight and hearing are also essential. Otherwise any disability could be overlooked.

From collections of these surveys, are tabulated in each district office of the Invalided Soldiers' Commission in Canada, the industries and tasks in which openings exist for disabled men, for the confidential information of the officials.

As these lists are subject to frequent revision they form a continuous catalogue of opportunities actually existing for disabled workers. A list of industries, showing openings for training in each, as compiled by the survey officials of a district in Canada, as of May 1, 1918, is herewith given.

List of Industries Showing Openings for Training in Each.

ARCHITECTURAL IRON AND BRONZE WORK:
- Bronze chasers and finishers.
- Draughtsmen.
- Pattern makers.
- Moulders.
- Ornamental iron mechanics.

AIR BRAKE WORK:
- Iron and brass machinists.
- Assemblers.
- Testers.

ALUMINUM WORK:
- Aluminum stamping.
- Aluminum spinners.

BISCUIT MANUFACTURERS:
- Biscuit mixer.
- Bakers.
- Brake operators.

BICYCLE WORK:
- Assemblers.
- Wheel truers.

BOOT AND SHOE WORK:
- Shoe repairer.
- Sole cutters.
- Sole sewers.
- Sanders.
- Cutters.
- Clickers.
- Upper machine operators.
- Last makers.
- Turn shoe worker.

BOILER AND BLACKSMITH:
- Blacksmiths.
- Bolt threading machine operators.
- Boring mill operators.
- Crane men.

BOX MANUFACTURERS:
- Lumber sorters.
- Wood working machiuists.
- Box assemblers.
- Nailers.
- Specialists.

BRASS WORKS:
- Machinists.
- Assemblers.
- Tinsmiths.
- Coremakers.
- Finishers.
- Polishers.
- Stock clerks.

BRUSH MANUFACTURERS:
- Paint brush makers.
- Wood workers.
- Hand and machine brush workers.

CABINET WORK:
- Pattern makers.
- Wood finishers.
- Cabinet makers.

CARPET WORK:
- Rug weavers.
- Spinners.

CASH REGISTER WORK:
- Assemblers.
- Stock clerks.

CIGAR MANUFACTURERS:
- Cigar maker.

COTTON AND WOOLEN MANUFACTURERS:
- Sewing machine repair men.
- Textile machinists.
- Cotton spinners.
- Wool spinners.

DENTIST WORK:
- Mechanical dentistry.

ELEVATOR WORK:
- Draughtsmen.
- Inside electrician.
- Elevator work (repairmen).
- Stock record keeper.

ELECTRICAL WORK:
- Armature winders.
- Repair men.
- Installation work.
- Draughtsmen.
- Machinists.
- Stock keeper.
- Meter experts.
- Meter assemblers.
- Testers (motor transformers, generators, etc.)
- Transformer assembling.
- Coil winding and wrapping.
- Detail assemblers.
- Switchboard assemblers.
- Iron and brass machinists (on all machines).

ELECTRIC LAMP WORK:
- Purifiers.
- Wire swayers.
- Bench glass workers.
- Hook machine operators.
- Machine shop stock keeper.
- Special mechanic.
- Shippers.

ELECTROTYPE WORK:
- Electrotypers.

ENGINEERING:
- Refrigeration engineer.
- Steam engineer.

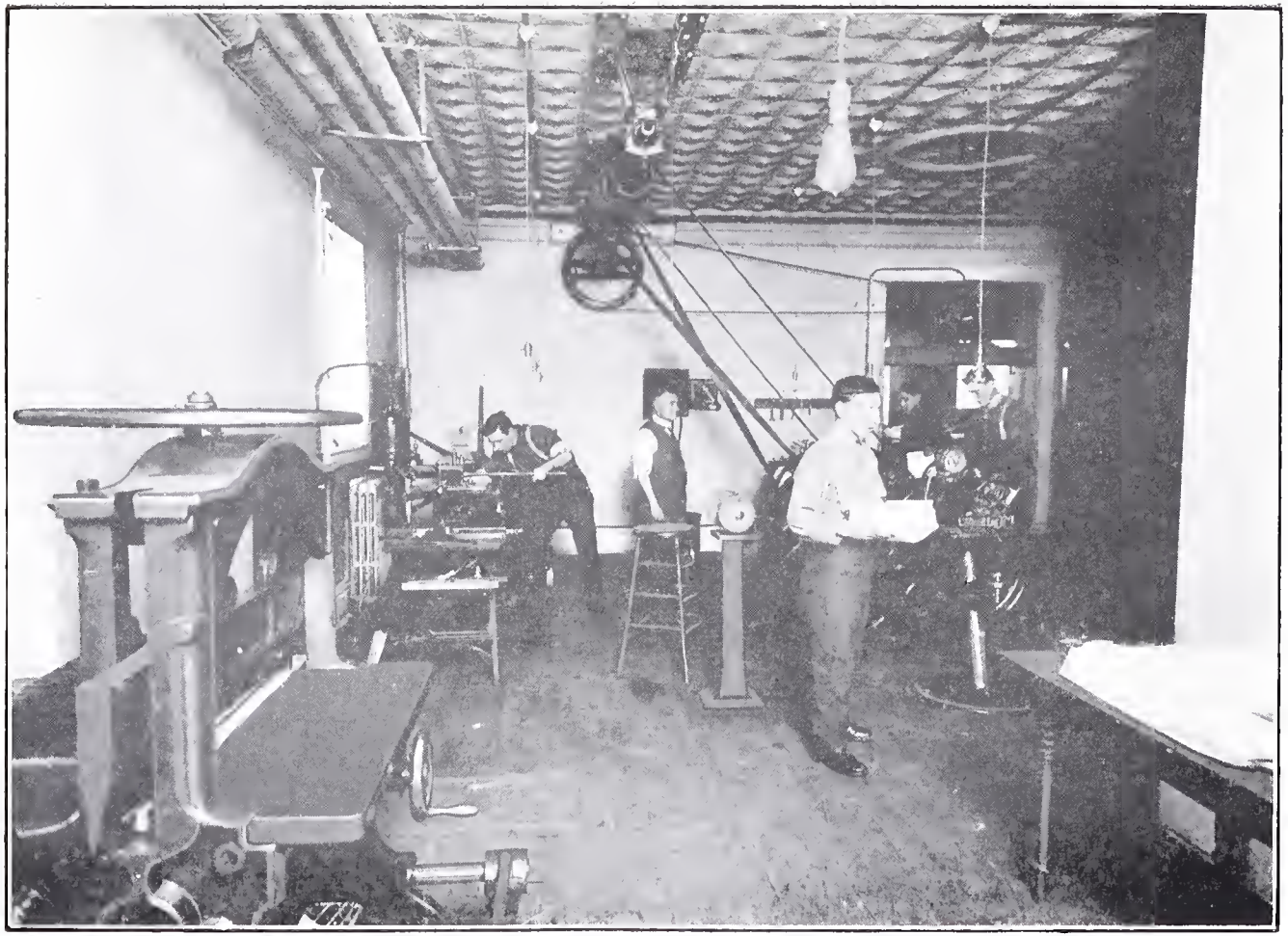
FARM WORK:
- Poultry raising.
- Hog raising.
- Truck gardening.

FARM WORK:
- Farm tractor work.

FURNITURE MANUFACTURERS:
- Planers.
- Sanders.
- Shapers.
- Sawyers.
- Mortisers and tenoners.
- Veneer workers.
- Assemblers.
- Wood finishers.
- Fibre weavers.

GOLD REFINING:
- Gold beaters.

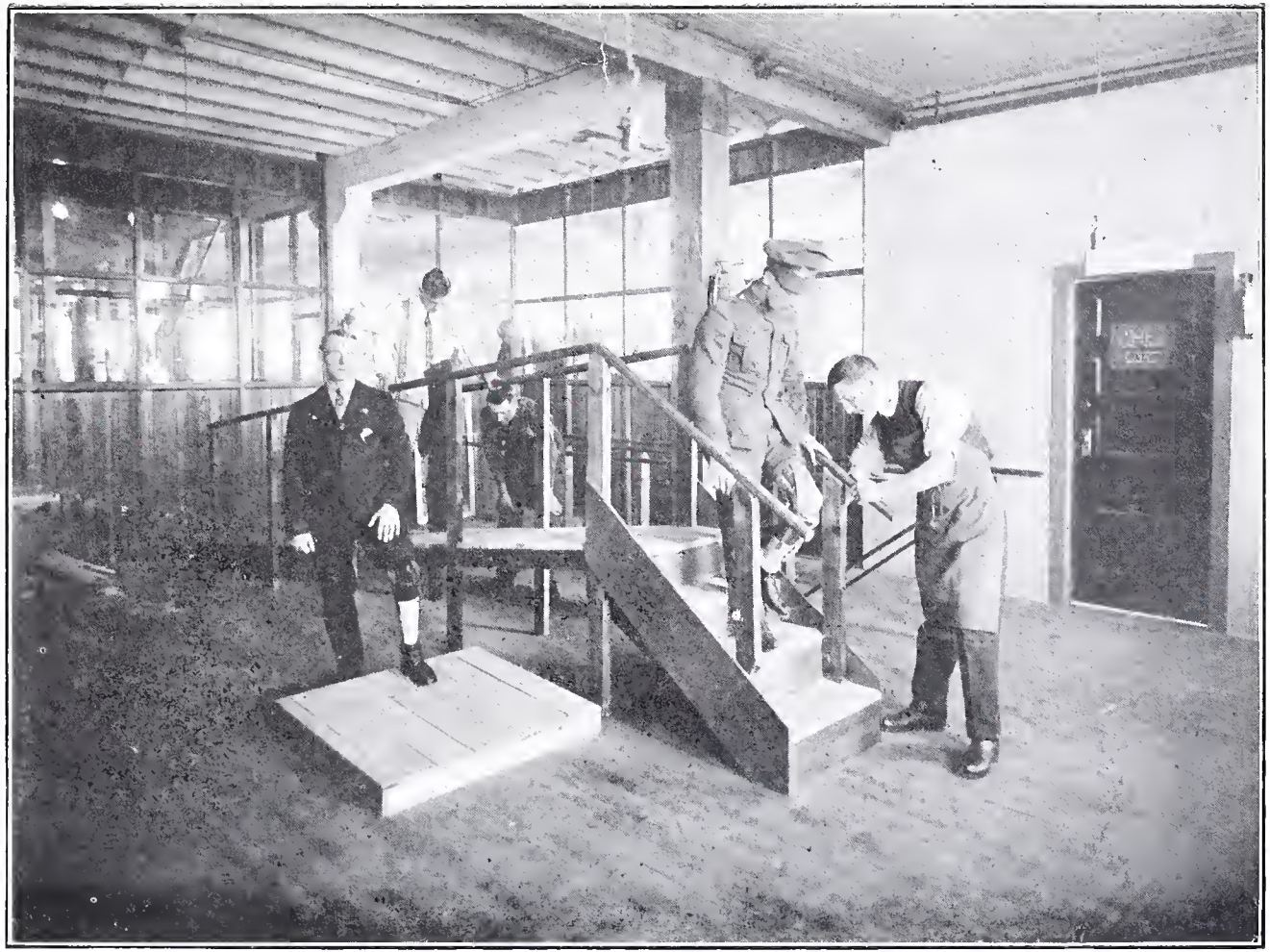
HARNESS MANUFACTURERS:
- Harness cutters.
- Harness sewers.
- Fitters.
- Collar cutters.
- Collar machinists.



Invalided Soldiers' Commission, Canada.

A COURSE IN JOB PRINTING

The type cases and job presses, as well as the linotypes and monotypes offer an economically independent future for many disabled soldiers.



Invalided Soldiers' Commission, Canada.

FITTING THE ARTIFICIAL LEGS

Every attention is given each soldier who requires an artificial leg, to determine that it fits perfectly and that the wearer learns how to use it on inclines and stairways as well as on level surfaces. Returned disabled soldiers in Canada are being trained

JEWELRY MANUFACTURERS.
- Die sinkers.
- Engravers.
- Glass cutters.
- Silver polishing.
- Silver mounters.
- Stone setters.
- Jewellery manufacturing.

LEATHER WORK:
- Legging cutter.
- Leather cutter.
- Leather finishers.
- Sole cutters.
- Tanners.
- Leather sorter.

LITHOGRAPHING.

MACHINE WORK:
- Crane men.
- Draughtsmen.
- Machinists.
- Pattern makers.
- Tool makers.
- Moulders.
- Lathe hands.

MOTOR WORK:
- Motor mechanics.

MOVING PICTURE WORK:
- Moving picture operators.

MULTICOLOR PRESS WORK:
- Multicolor press and operators.

OPTICAL WORK:
- Lens grinding.
- Machine work.

OXY-ACETYLENE CUTTING AND WELDING WORK:
- Cutters and welders.

PACKING HOUSE WORK:
- Beef cutting.
- Stock clerks.
- Checkers.
- Egg candlers.
- Ham boners.
- Sausage makers.

PAINTING:
- Wood finishers.
- Air brush varnishers.

PHOTO ENGRAVING:
- Artists.
- Photographers.
- Etchers.
- Finishers.
- Proofers.
- Printers.

PIANO WORK:
- Cabinet makers:
- Action assemblers.
- Case makers.
- Fly finishers.
- Polishers.
- Veneering.
- Varnishers.
- Tuners.
- Rubbers and finishers.
- Wood working machinists.

PRINTING:
- Monotype keyboard operators.
- Press feeders.
- Linotype operators.

ROOFING WORK:
- Roofers.

RUBBER MANUFACTURING:
- Rubber shoe cutting.
- Rubber shoe making.

SHEET METAL WORK:
- Draughtsmen.
- Sheet metal workers.
- Erectors.
- Press operators.
- Can makers.
- Cutters.
- Metal lithographers.
- Tinsmiths.

TAILORING:
- Cutters.
- Collar makers.
- Sleeve makers.
- Designers.

TANNING:
- Fleshers.
- Vatmen.
- Finishers.

UPHOLSTERING WORK:
- Upholsterers.

WHOLESALE STATIONERY AND BOOKBINDING:
- Bookbinders.
- Cutters.
- Rulers.
- Leather workers.
- Gilders.
- Marblers.
- Finishers.

WIRELESS WORK:
- Wireless operators.

WATCH MANUFACTURING

That list of industries, showing openings for disabled men, serves as a guide for the placement officials in obtaining places for final shop training and employment for returned disabled soldiers and sailors.

It may be noted in this connection that the list of opportunities for disabled workers at various tasks in the industries of Pennsylvania, as collected and compiled by the Bureau of Employment of the Department of Labor and Industry, will provide valuable points of contact for the survey officials.

Placement Officials.

The placement officials will actually connect the disabled men with the jobs, whether in the plants where they will take the final weeks or months of industrial training,—and where they may ultimately be absorbed in permanent employment,—or in the paid jobs direct from training classes.

The lists of openings and plant surveys, compiled by the survey officials will be the basis of the placement work. Thoroughly efficient placement officials should obviously keep in daily contact with the survey officials in their respective communities, study the surveys carefully and keep in close touch with the educational authorities in order that disabled men completing various courses may be immediately guided to proper placement for final training or employment.

Placement officials should be thoroughly conversant with the industrial conditions in their respective communities. It is preferable that they have a wide acquaintance among employers and also among employes, including representatives of labor organizations. Placement officials should also have knowledge of the general conditions of employment in various trades to supplement the detailed information given in the survey sheets of the survey officials. The placement officials should also acquaint themselves with such seemingly unimportant details as distances and transportation facilities between homes or living quarters of the disabled men and the plants at which they are considered for placement. Although such details might be considered of slight consequence they are of vital importance when considered for physically handicapped workers.

Follow-up Officials.

A third class of workers in an employment organization for handicapped men should be what may be designated as follow-up officials to visit recently placed disabled men at their work in the plants and to determine whether all conditions are satisfactory.

The aims of the follow-up officials should be:

1. To learn whether the man is satisfied in his employment and is making proper progress.
2. To learn whether the employer is satisfied with the man and whether the relation between the employer and new employe bids fair to become permanent.
3. To learn from the disabled man's fellow employes, including those working closely adjacent to him, as well as from other representative employes, or members of shop committees of employes, whether, in their judgment, the man is fitting into the shop organization and making proper progress.

The follow-up officials should be able to determine from the aggregate mass of information received from all sources whether the disabled man is receiving training in all processes of his chosen task or occupation or whether there is any tendency for him to remain on a given shop process, for which he has shown adaptability, and thus become simply a process operator for production rather than a thoroughly skilled mechanic in his occupation.

It is probable that if an adequate corps of placement workers are part of the employment organization in a given community that a further separate group of follow-up officials will be unnecessary as the placement officials can probably perform this phase of the work in connection with their placement activities.

The officials engaged in follow-up work should be men of tact and judgment. They should not only have a knowledge of processes in the various industrial tasks but they should also know human nature, and be able to determine healthful and safe conditions of employment.

Home Visitors.

A fourth class of officials connected more particularly with the work of the class room educational authorities than with the employment organization, as such, may be a corps of home visitors. These home visitors, as the name implies, would visit the homes of the disabled soldiers and sailors to determine whether family illness or home financial troubles are likely to distract the man's attention from his studies or from his employment. An infinite amount of tact and good judgment will be required on the part of these home visitors for successful work and it is probably preferable that they be women of mature age, with experience in social work. The home visitors, if their activities are combined with good judgment, can do much to alleviate stress in the homes of the disabled soldiers and sailors and make possible in many cases the completion of training courses by disabled men who otherwise might not finish or even undertake them. The home visitors would of necessity be in constant contact not only with the vocational and placement authorities of the Federal Board but also in unostentatious contact with the Home Relief Division of the Red Cross, State Council of National Defense and similar organizations.

Although these home visitors would not be definitely a part of the employment organization in a given community their work could be co-ordinated with the employment activities.

Scope of Organization.

The average employer, employe or citizen may at first hand consider an employment system as outlined in previous pages as entirely too

complex, intricate and ponderous to perform efficiently the National and State duty of finding suitable occupations for disabled men.

It should, however, be realized that every effort made at this time to guide the returned disabled soldier or sailor into suitable and remunerative employment will not only be proper recognition of the debt that the country owes such returned disabled men but a sound economic and social policy. The days of feasting and lavish entertainment for the returned men will comprise at most a short period and following that period what is the future of the untrained disabled soldier or sailor?

Apart from the purely patriotic side one must consider the economic phases of the question. Reclamation of what might be waste products is today a specialized and highly valuable activity. Shall charity or a proper wage from a productive industry supplement a pension in supporting the disabled soldier and sailor and their families through the coming years?

Shall the production of the industries of the United States be augmented by the useful work of such returned disabled men in suitable industrial tasks? Or, shall that production be lost while the returned disabled men, for lack of training or lack of proper placement in industry, remain in dangerous idleness supported by a pension?

The whole aim and purpose of the rehabilitation work should be clearly understood by all employers and employes in order that the great project may be developed more on its economic and socially beneficial phases than on the merely sentimental side of giving a job to a disabled soldier or sailor.

The placement of disabled soldiers and sailors in employment, following their industrial training in education courses, will undoubtedly be at flood tide during the war and probably at its highest point at the immediate close of the war. During the progress of the war, the great demand for labor will tend to magnify the ever-present danger of placing disabled workers at tasks which lead nowhere and at merely unit processes in the Nation-wide industrial effort for maximum production. It has been truthfully said that the first job for a returned disabled soldier is easy to obtain but such job does not always mean the best job for the returned soldier when considered with the conditions that may follow the war, when the present great demand for labor will be alleviated.

Maximum State Co-operation Essential.

Co-operation of State Governments in the development of methods and machinery for the placement of disabled workers in employment will unquestionably be accorded to the Federal authorities in a maximum degree.

The Federal Board for Vocational Education will doubtless outline definite policies to govern the placement work throughout the country and may use existing placement machinery as is available and suitable in the various States.

After the war, the placement of handicapped workers, including those maimed in industry, will be a more vital question in employment activities than it has ever been.

The war has focused attention on the long lists of able-bodied men who have become maimed in warfare, and patriotic impulses combined with sound economic judgment have set in motion great forces to reclaim those disabled men as actual self-supporting producers. But, at the same time, the casualty lists of industry are larger, as a general average, than the casualty lists of war and the casualty lists of industry continue in times of peace.

It may be that the same economic judgment which inspires the project of reclaiming men wounded in warfare will perpetuate, after the war, a project of great importance to the State and Nation, that of reclaiming men maimed through industrial accidents.

PART V.

COMPARATIVE CASUALTIES OF WAR AND INDUSTRY.

How many Pennsylvanians will be returned disabled from war after a given period?

How will that number of war disabled compare with the number of workers injured in the industries of Pennsylvania during a given period?

The answer to the first question can only be estimated, using as a basis the experience of countries engaged in the war over a period of years.

The answer to the second question can be determined from the records of industrial accident reports submitted over a given period to the Pennsylvania Department of Labor and Industry.

The experience of Canada in the present war gives an unusual opportunity to forecast the number of disabling casualties that may be expected among Pennsylvania's soldiers.

The population of Pennsylvania is approximately the same as the population of the entire Dominion of Canada—8,000,000.

It is believed that Pennsylvania will ultimately raise an army of approximately the same size as Canada—between 400,000 and 500,000.

It is therefore within the limits of possibility that the disabled soldiers, returned to Pennsylvania after a given period of warfare, will be in the same proportion as to number and types of disability as have been returned to Canada during an equal period.

Industry's Casualties.

The army of employes remaining in Pennsylvania may be considered as six times as great in number as the army Pennsylvania will ultimately put in the field.

The casualties suffered by that army of Pennsylvania workers,—estimated to average continuously 3,000,000 during the two years and a half from January 1, 1916 to July 1, 1918,—amounted to 577,053, including 7,575 fatalities, according to accident reports submitted during that period to the Pennsylvania Department of Labor and Industry. An accident report is rendered to the Department when a worker is killed or disabled for a period exceeding two days.

The number of industrial workers injured in two and one-half years in Pennsylvania is greater than the army that either Canada or Pennsylvania is sending against Germany.

In other words, if the number—not the percentage of the total engaged—of Pennsylvanians injured in war equals in two and one-half years the number injured in the industries of Pennsylvania during the same period, every man in an army of 500,000 will be injured once and more than 75,000 men in that army will be twice wounded during those two and one-half years.

War's Casualties.

Canada, after four years of war, has had approximately 50,000 men returned as unfit for further military service. That number, of course, does not include the total number of men who have been wounded or sick and who have recuperated.

A vital factor in a comparison of the disabled in war with the injured in industry is the number of men returned as unfit for army service as the result of disease. Mr. T. B. Kidner, former Vocational Secretary of the Invalided Soldiers' Commission of Canada, now associated with the Federal Board for Vocational Education of the United States, in an address on "Vocational Re-Education of the Handicapped and Incapacitated in Canada" as delivered at the Eleventh Annual Convention of the National Society for Vocational Education at Philadelphia in February 1918, cited a recent official statement made in England, reporting that out of every thousand cases of disablement 547 are cases of disease and 453 are cases of wounds and injuries.

It that ratio holds true for the disabled soldiers returned as unfit to Canada and to Pennsylvania, it would seem to indicate that only about one-half of the men invalided from war are suffering from wounds,—but every man in the list of industrial accidents reported is actually wounded.

Amputations.

Approximately 1,200 of the 50,000 disabled soldiers returned to Canada are "amputation cases" or soldiers having lost one or more arms, legs, hands, feet, fingers and toes.

That record may be considered with the statement that in the industries of Pennsylvania, during the period of only two years and a half from January 1, 1916 to July 1, 1918, there have been 3,798 industrial "amputation cases" of workers having lost arms, legs, hands, feet, fingers and toes.

On the basis of those figures, it may be safe to assume that the total number of amputations suffered by men in Pennsylvania's army in the field of war will be considerably less than the total number of amputations suffered in Pennsylvania's industries over an equal period.

A table showing the dismemberments and loss of parts suffered by industrial workers in Pennsylvania from January 1, 1916 to July 1, 1918, according to accident reports received by the Pennsylvania Department of Labor and Industry is as follows:

	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Year 1916,	363	59	105	1,111	111	48	87
Year 1917,	432	81	214	749	144	112	81
First six months 1918,	359	46	136	500	69	77	68
Totals,	1,157	186	455	2,360	324	237	236

On the other hand, the amputations in warfare are probably more serious in degree than the amputations in industry. According to the official bulletin of the Canadian Department of Soldiers' Civil Re-establishment for March, 1918, a classification of the amputation cases in the Canadian Army shows that of the men returned to Canada, 328 had lost arms and 723 had lost legs. A further classification shows that virtually twice as many arm amputations were made above the elbow as below the elbow and about twice as many leg amputations were made above the knee as below the knee.

Blindness.

After almost four years of war, with an army, at present, of between 400,000 and 500,000, Canada's experience shows that less than 50 soldiers have been blinded. It has been stated that the number in the spring of 1918 was 34.

In the shorter period of only two and one-half years,—from January 1, 1916 to July 1, 1918,—there have been 29 workers blinded through accidents in the industries of Pennsylvania. The total number of eyes lost through industrial accidents in Pennsylvania during those two and one-half years is 1,157.

Extreme Mutilations.

Of the twenty-nine men blinded by industrial accidents in Pennsylvania during two and one-half years, one worker also lost a left hand, one a right arm, and one both hands in the accidents that blinded them. During those same two and one-half years, five workers lost both hands, one of whom also lost one eye; six workers lost both legs; three workers lost both feet; four workers lost both an arm and a foot; five workers lost both an eye and a hand; two workers lost a leg and a foot; two workers lost an arm and leg and two workers lost both arms.

Workmen's Compensation Data.

During the two and one-half years from January 1, 1916 to July 1, 1918, there were 159,659 industrial workers injured in Pennsylvania and disabled for a period exceeding fourteen days. Those workers received workmen's compensation payments as provided by the State law and, in addition, dependents of 4,636 workers killed in industry likewise received workmen's compensation payments. The difference between the number of 577,053 industrial workers reported as injured and those receiving compensation payments represents cases where the disability did not exceed a period of fourteen days.

Workmen's compensation awarded and paid for fatalities in Pennsylvania from January 1, 1916 to July 1, 1918, amounted to $11,539,352.46 of which $1,393,616.76 had been paid to dependents. Payments for disability cases during the same period amounted to $5,378,207.14. The gross total of workmen's compensation awarded and paid in Pennsylvania for fatal and disability cases from January 1, 1916 to July 1, 1918, amounted to $16,917,559.60.

THE BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

LT.-COL. JOHN PRICE JACKSON, Commissioner,
On Leave of Absence—War Service.

CLIFFORD B. CONNELLEY
ACTING COMMISSIONER

This issue of the Bulletin contains four groups of tables classifying and analyzing industrial accident reports received at the Bureau of Statistics and Information of the Department of Labor and Industry during the entire year of 1918.

Prepared in the
BUREAU OF STATISTICS AND INFORMATION.

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DEPARTMENT OF LABOR AND INDUSTRY

LT-COL. JOHN PRICE JACKSON, Commissioner,
On Leave of Absence—War Service.

CLIFFORD B. CONNELLEY
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INTRODUCTION.

The following series of tables cover industrial accidents which occurred in the Commonwealth of Pennsylvania, in cases where the disability was for two days or more. These statistics are compiled monthly, covering the month in which the reports are received by the Bureau of Statistics and Information of the Department of Labor and Industry, and represent reports received during the entire year of 1918.

These tables are made up in three groups, one covering all accidents, one covering fatal accidents and another including compensation cases, and are published in the order named. These tables carry considerable interesting detailed information, and emphasize the importance of exercising every precaution for the prevention of accidents.

The tables included in Group No. 1 cover a total of 184,844 accidents, including 3,403 fatal accidents, 53,783 cases of a serious nature, where the injury resulted in the loss of more than fourteen days to the injured person, and 127,658 cases of a minor nature causing disability of fourteen days or less. Of the 184,844 accidents covered in this group, 180,680 were cases where males were injured and 4,164 cover accidents to females. The 3,403 fatal cases include 3,379 accidents to males, and 24 accidents to females.

The tables included in Group No. 2 give detailed information covering these 3,403 fatal cases and show the number which occurred in each county.

In Group No. 3 the tables cover a total of 69,920 accident cases where compensation has been awarded and paid. Of this number 2,607 were fatal cases, and 67,313 of a serious nature, resulting in a disability of more than fourteen days. Of the 69,920 cases, 68,603 represent accidents occurring to males and 1,317 are female cases. The total amount of compensation paid covering the 67,313 disability cases, was $4,780,197 an average of $71 per case. The amount paid and awarded for the 2,607 fatal cases was $6,859,718, an average of $2,631.27 per case. The grand total of the amount paid and awarded in both disability and fatal cases was $11,639,915, or an average of $166.47 for each of the 69,920 accidents covered in these tables.

Group No. 4 presents summary of accident data.

Table showing workers killed and injured in Pennsylvania industrial accidents, reported to the Bureau of Statistics and Information by months in 1916, 1917 and 1918.

	1916.		1917.		1918.	
	Fatal.	Total.	Fatal.	Total.	Fatal.	Total.
January,	215	13,465	219	20,961	311	15,080
February,	237	24,475	214	19,517	290	14,677
March,	254	26,971	278	22,441	286	14,948
April,	177	20,010	269	18,636	249	16,621
May,	164	19,379	274	18,536	290	16,429
June,	169	19,939	281	18,955	330	15,982
July,	209	21,028	251	18,274	288	16,706
August,	231	23,817	248	19,639	336	17,514
September,	278	22,394	253	18,189	257	16,515
October,	266	21,565	248	17,122	255	15,098
November,	230	21,366	291	18,497	264	12,556
December,	240	21,267	246	17,113	247	12,718
Total,	2,670	255,616	3,070	227,880	3,403	184,844

Group No. 1. ALL ACCIDENTS.

This series of twelve tables embraces the industrial accident reports received at the Pennsylvania Department of Labor and Industry during the year 1918 and includes all accidents where the disability was for two days or more. These tables give the industry in which the accident occurred, nature of injury, part injured, loss of parts, degree of accident and sex of injured, time and wage loss, social condition of injured and number of minors under 16 years of age who were injured.

Table Covering All Accidents Reported in January, 1918.

Industries.	Nature of Injury.								Part Injured.									Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	24	252	147	163	7	15	16	29	150	69	35	33	74	109	63	96	24	1	----	----	4	3	----	4
Chemicals and allied products,	39	94	60	60	1	3	5	21	52	40	16	11	32	41	32	48	11	1	----	----	----	----	----	----
Clay, glass and stone products,	22	158	123	100	7	4	7	5	81	34	20	16	69	74	39	54	19	2	----	1	2	----	----	----
Clothing manufacture,	3	34	35	16	1	9	4	2	15	3	1	6	18	45	8	7	1	1	----	----	----	----	----	----
Food and kindred products,	8	87	76	61	------	7	8	8	44	15	4	22	45	51	26	39	9	----	----	1	2	----	----	----
Leather and rubber goods,	3	38	36	19	------	7	4	2	15	5	3	8	17	35	7	14	5	----	----	----	----	----	----	----
Liquors and beverages,	2	49	21	37	2	5	1	7	39	3	3	8	18	21	18	12	2	----	----	----	----	----	----	----
Lumber and its re-manufacture,	6	95	79	52	1	5	2	15	49	12	5	9	34	71	31	42	2	----	----	----	2	----	----	----
Paper and printing industries,	7	74	45	39	1	7	3	7	22	13	8	7	20	70	13	24	6	----	----	----	4	----	----	----
Textiles,	9	33	51	27	------	12	7	5	22	13	3	12	24	43	10	14	3	----	----	----	----	----	----	----
Laundries,	3	7	3	3	1	1	----	----	3	----	----	1	4	7	----	3	----	----	----	----	----	----	----	----
Metals and metal products,	507	1,541	1,239	773	40	66	70	106	567	398	422	167	443	989	341	685	330	3	----	2	41	2	1	5
Mines and quarries,	179	1,733	1,198	749	24	51	100	104	826	507	264	165	396	811	473	537	159	7	----	1	11	4	1	----
Public service,	189	1,323	567	798	23	13	33	53	671	330	133	146	309	452	329	469	160	1	5	1	2	7	4	----
Tobacco and its products,	1	6	3	3	----	----	----	1	2	1	----	2	2	4	----	3	----	----	----	----	----	----	----	----
Miscellaneous,	30	178	84	136	11	13	13	22	109	44	15	30	62	81	54	71	21	----	----	----	3	----	----	----
Hotels and restaurants,	8	18	16	20	2	2	1	6	19	4	----	8	14	15	6	7	----	----	----	----	----	----	----	----
Jobbers and wholesalers,	----	20	13	22	3	1	2	1	18	6	----	4	2	7	8	17	----	----	----	----	----	----	----	----
Mercantile establishments,	7	123	74	91	3	6	10	19	88	25	10	24	52	52	34	42	6	----	1	----	1	----	----	----
Municipalities,	1	34	14	43	------	2	1	3	27	15	3	5	11	2	15	19	1	----	----	----	----	----	----	----
Grand totals,	1,049	5,877	3,884	3,212	127	229	287	416	2,819	1,537	945	684	1,646	2,980	1,507	2,208	759	16	6	6	78	16	6	9

Table Covering All Accidents Reported in January 1918.—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	17	273	362	----	----	1	12,414	43,515	386	200	67	------	------	517	15	653
Chemicals and allied products,	3	102	173	----	3	2	4,755	14,289	167	97	19	1	------	230	15	283
Clay, glass and stone products,	1	114	286	----	1	4	5,621	18,335	269	131	6	1	------	436	33	406
Clothing manufacture,	1	17	42	----	8	36	1,534	3,719	33	61	10	2	5	29	4	104
Food and kindred products,	2	88	150	----	1	14	4,860	13,930	155	91	9	3	1	175	7	255
Leather and rubber goods,	------	26	78	----	2	3	1,585	3,833	61	44	4	3	1	109	6	109
Liquors and beverages,	------	39	84	----	----	1	2,072	6,403	85	36	3	------	------	124	5	124
Lumber and its re-manufacture,	1	113	138	----	1	2	4,809	13,519	152	89	14	3	------	179	4	255
Paper and printing industries,	5	63	103	----	6	6	2,832	7,314	102	71	10	4	------	122	13	183
Textiles,	------	30	72	----	11	31	1,956	4,677	62	77	5	5	3	65	9	144
Laundries,	------	4	7	----	3	4	280	619	12	6	------	------	1	6	1	18
Metals and metal products,	54	1,442	2,823	----	5	18	67,789	242,411	2,585	1,525	232	10	------	4,267	380	4,342
Mines and quarries,	116	1,452	2,567	----	1	2	70,319	244,559	2,690	1,395	53	15	------	2,563	14	4,138
Public service,	78	841	1,963	----	15	2	45,596	155,999	2,012	812	175	1	------	2,825	121	2,999
Tobacco and its products,	------	5	5	----	2	2	278	608	11	3	------	------	------	10	------	14
Miscellaneous,	15	185	259	1	11	16	8,574	27,056	287	168	32	4	------	348	9	487
Hotels and restaurants,	1	31	31	1	4	5	1,496	3,469	35	34	4	------	------	31	1	73
Jobbers and wholesalers,	1	28	31	----	----	2	1,217	3,574	42	20	------	------	------	42	------	62
Mercantile establishments,	5	115	176	----	11	26	5,898	14,114	171	131	31	2	1	218	3	333
Municipalities,	9	36	46	----	6	1	1,769	4,828	73	22	3	------	------	82	1	98
Grand totals,	309	5,104	9,396	2	91	178	245,654	$826,771	9,390	5,013	677	54	12	12,378	641	15,080

Table Covering All Accidents Reported in February, 1918.

Industries.	Nature of Injury.								Part Injured.									Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	24	233	127	167	6	8	23	20	133	67	34	32	56	79	73	117	17	2	2	----	1	----	1	1
Chemicals and allied products,	47	68	52	65	1	5	4	13	59	26	17	12	36	32	22	44	7	----	----	----	4	----	----	----
Clay, glass and stone products,	12	132	124	89	8	4	8	11	65	43	26	18	55	73	36	53	19	1	----	----	----	----	----	----
Clothing manufacture,	1	38	27	16	1	5	8	8	17	1	2	5	14	48	7	7	3	----	----	----	----	----	----	----
Food and kindred products,	8	88	59	44	4	5	7	14	50	13	5	16	32	44	20	29	11	----	----	1	1	----	----	----
Leather and rubber goods,	8	39	35	19	------	5	4	2	17	8	4	5	16	42	11	6	3	----	----	----	----	----	----	----
Liquors and beverages,	6	35	16	25	------	3	------	3	18	5	3	4	12	14	15	15	2	----	----	----	1	----	----	----
Lumber and its re-manufacture,	8	75	90	46	5	7	6	5	37	11	11	10	32	74	30	30	7	----	----	----	7	----	----	----
Paper and printing industries,	10	67	39	22	1	7	1	4	19	11	7	15	22	48	6	18	5	----	2	----	2	----	----	----
Textiles,	7	61	37	32	2	2	8	3	32	5	2	10	29	39	17	14	4	----	1	----	3	----	----	----
Laundries,	2	10	1	6	1	------	------	1	7	------	------	------	3	6	2	2	1	----	----	----	----	----	----	----
Metals and metal products,	467	1,587	1,262	782	42	50	66	91	560	348	439	202	450	957	335	692	364	4	1	3	39	----	2	4
Mines and quarries,	145	1,774	1,061	765	16	40	93	83	836	424	241	188	411	713	462	550	152	5	----	----	15	1	1	5
Public service,	185	1,351	543	754	24	10	41	43	669	349	138	161	286	429	342	429	148	----	2	2	16	3	2	5
Tobacco and its products,	------	8	2	4	------	------	1	------	2	1	------	------	1	1	3	6	1	----	----	----	----	----	----	----
Miscellaneous,	24	227	114	123	5	20	24	28	103	51	17	40	57	109	68	93	27	----	1	1	2	1	----	----
Hotels and restaurants,	2	16	18	13	------	2	2	1	9	3	------	3	7	19	8	4	1	----	----	----	1	----	----	----
Jobbers and wholesalers,	2	23	10	25	3	------	2	6	30	4	2	8	5	8	3	9	2	----	----	----	1	----	----	----
Mercantile establishments,	4	101	41	79	2	4	5	15	77	16	5	15	42	23	26	44	3	----	----	----	----	----	----	----
Municipalities,	3	35	17	40	1	2	3	4	28	11	4	10	10	9	13	18	2	2	----	----	----	----	----	----
Grand totals,	965	5,968	3,666	3,116	122	179	306	355	2,768	1,397	957	754	1,576	2,767	1,499	2,189	779	14	9	7	93	5	6	15

Table Covering All Accidents Reported in February, 1918.—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	15	259	332	----	1	1	11,742	$43,992	340	196	72	------	------	450	27	608
Chemicals and allied products,	10	103	136	----	4	2	4,327	13,192	171	64	20	1	------	285	17	255
Clay, glass and stone products,	7	113	257	----	2	9	5,770	19,085	228	139	21	3	------	367	23	388
Clothing manufacture,	------	26	31	----	15	32	1,813	3,850	32	54	18	2	5	53	1	104
Food and kindred products,	1	88	126	----	1	4	4,058	11,678	124	73	23	------	------	159	4	226
Leather and rubber goods,	1	26	72	----	2	11	1,455	3,613	64	45	3	2	1	80	10	112
Liquors and beverages,	1	38	47	----	----	2	1,587	4,386	66	17	5	1	------	76	1	88
Lumber and its re-manufacture,	1	104	134	----	1	2	4,516	12,143	134	85	23	2	------	180	7	242
Paper and printing industries,	------	55	74	----	10	12	2,776	6,887	75	62	14	6	------	96	21	151
Textiles,	------	41	74	----	12	25	2,529	5,936	69	72	11	7	1	74	7	152
Laundries,	------	8	7	----	2	4	548	1,144	11	9	1	------	------	3	1	21
Metals and metal products,	34	1,341	2,946	----	9	17	64,913	240,973	2,629	1,491	227	8	1	4,390	420	4,347
Mines and quarries,	119	1,346	2,511	----	1	------	64,027	233,393	2,469	1,395	113	16	------	2,568	20	3,977
Public service,	76	967	1,899	----	2	7	52,846	148,788	2,014	817	120	1	------	2,585	180	2,951
Tobacco and its products,	1	4	7	----	1	2	269	521	9	5	1	------	------	9	------	15
Miscellaneous,	13	199	327	----	17	9	10,022	29,874	325	175	65	2	------	355	22	365
Hotels and restaurants,	1	22	22	----	2	7	1,208	2,863	29	19	6	------	------	24	------	54
Jobbers and wholesalers,	3	38	27	----	1	2	1,728	5,125	45	20	6	------	------	52	1	71
Mercantile establishments,	2	108	124	----	5	12	4,929	11,631	119	98	34	4	------	113	5	251
Municipalities,	5	55	41	----	3	1	2,387	6,906	84	18	3	3	------	109	4	105
Grand totals,	290	4,941	9,194	----	91	161	243,450	$805,890	9,037	4,854	786	55	8	12,028	771	14,677

Table Covering All Accidents Reported in March, 1918.

Industries.	Nature of Injury.								Part Injured.								Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	19	249	129	181	7	8	39	11	131	60	26	46	58	118	69	110	25	2	----	2	2	1	1	----
Chemicals and allied products,	31	63	42	57	1	5	2	9	43	22	16	5	25	47	22	23	7	----	----	----	----	----	----	----
Clay, glass and stone products,	26	115	130	67	6	5	12	11	51	34	25	19	53	74	40	53	23	1	----	----	3	----	----	----
Clothing manufacture,	4	25	35	16	----	6	18	2	12	5	1	6	11	59	3	8	1	----	----	----	1	----	----	----
Food and kindred products,	10	75	72	71	2	6	9	----	45	20	4	17	47	63	15	25	9	----	----	----	3	----	1	----
Leather and rubber goods,	6	33	29	26	2	3	6	4	13	5	----	8	12	44	8	16	3	----	----	----	1	----	----	----
Liquors and beverages,	2	32	26	22	3	4	2	1	19	7	2	4	19	20	8	12	1	1	----	----	1	----	----	----
Lumber and its re-manufacture,	8	80	104	52	1	10	11	2	44	21	14	20	34	73	19	37	6	----	----	1	3	----	----	----
Paper and printing industries,	8	63	47	28	2	2	5	2	23	7	5	14	25	47	14	12	10	----	----	1	----	----	----	1
Textiles,	8	55	64	50	1	10	9	4	29	12	3	20	34	64	9	26	4	----	----	1	----	----	----	----
Laundries,	6	9	4	10	----	----	----	----	3	1	1	3	6	6	6	3	----	1	----	----	----	----	----	----
Metals and metal products,	506	1,602	1,300	842	61	76	121	52	582	344	371	189	507	1,080	385	718	384	3	1	5	48	3	1	6
Mines and quarries,	134	1,779	1,263	876	38	43	130	28	827	470	235	207	402	825	584	542	199	4	----	2	7	3	----	5
Public service,	152	1,177	467	676	20	9	41	23	539	286	138	133	266	364	261	406	172	1	2	----	6	4	3	----
Tobacco and its products,	1	6	3	4	----	----	1	2	2	2	----	2	1	3	4	3	----	----	----	----	----	----	----	----
Miscellaneous,	30	270	126	183	8	12	23	25	127	66	18	31	70	101	78	151	35	----	1	----	6	----	----	----
Hotels and restaurants,	9	10	19	10	1	2	2	----	9	4	----	6	12	12	4	4	2	----	----	----	----	----	----	----
Jobbers and wholesalers,	----	21	12	19	----	1	----	2	14	4	1	4	5	7	8	10	2	----	----	----	1	----	----	----
Mercantile establishments,	7	68	40	71	----	7	8	5	54	14	5	17	35	29	23	24	5	----	----	----	1	----	----	----
Municipalities,	3	30	13	32	3	1	2	8	29	7	----	10	10	12	12	10	2	----	----	----	----	1	----	----
Grand totals,	970	5,762	3,925	3,293	156	210	441	191	2,596	1,391	865	761	1,632	3,048	1,572	2,193	890	13	4	12	83	12	6	12

Table Covering All Accidents Reported in March, 1918.—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	25	294	322	----	2	------	2,525	$9,952	342	215	86	------	------	225	35	643
Chemicals and allied products,	3	83	123	----	----	1	3,702	11,276	137	55	18	------	------	209	18	210
Clay, glass and stone products,	4	106	258	----	2	2	6,345	19,424	226	132	14	3	------	383	43	372
Clothing manufacture,	------	20	41	----	11	34	1,829	3,948	26	67	13	5	1	24	9	106
Food and kindred products,	3	90	134	----	5	13	4,469	11,524	139	87	19	1	------	214	29	245
Leather and rubber goods,	1	34	67	----	1	6	1,771	4,922	66	38	5	2	------	103	11	109
Liquors and beverages,	4	39	49	----	----	------	1,732	5,090	66	24	2	------	------	85	5	92
Lumber and its re-manufacture,	3	108	153	----	1	3	5,197	14,207	162	92	14	3	------	200	22	268
Paper and printing industries,	1	40	93	----	12	11	2,661	5,877	65	89	3	4	1	102	27	157
Textiles,	2	52	96	----	15	36	3,437	7,873	94	99	8	6	2	109	18	201
Laundries,	1	9	9	----	4	6	622	1,722	13	12	4	------	------	12	3	29
Metals and metal products,	49	1,362	3,107	----	8	34	71,387	246,628	2,784	1,611	165	6	------	4,613	548	4,560
Mines and quarries,	101	1,485	2,703	----	1	1	75,875	268,145	2,748	1,457	86	18	------	3,161	16	4,291
Public service,	66	753	1,729	----	4	13	37,216	123,592	1,722	731	112	1	------	2,235	71	2,565
Tobacco and its products,	------	6	8	----	----	3	365	950	8	9	------	1	------	2	1	17
Miscellaneous,	8	301	350	----	9	9	13,672	45,096	373	227	77	------	------	522	30	677
Hotels and restaurants,	------	16	25	----	5	7	970	2,042	27	22	4	------	------	46	------	53
Jobbers and wholesalers,	3	28	21	----	2	1	1,380	3,709	32	19	4	------	------	45	5	55
Mercantile establishments,	4	89	88	----	13	12	4,303	9,698	87	86	33	4	------	99	3	206
Municipalities,	8	46	35	----	3	------	2,315	6,309	59	24	9	------	------	82	5	92
Grand totals,	286	4,961	9,411	----	98	192	241,773	$801,974	9,176	5,996	676	54	4	12,471	899	14,948

Table Covering All Accidents Reported in April, 1918.

Industries.	Nature of Injury.						Part Injured.										Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	31	287	169	219	7	23	70	12	147	74	33	58	110	115	91	152	29	4	----	----	2	----	1	1
Chemicals and allied products,	31	62	54	56	5	11	12	6	36	27	22	14	33	38	27	33	7	2	----	1	----	1	----	----
Clay, glass and stone products,	19	148	127	76	5	10	9	7	67	30	21	18	54	85	56	60	30	----	----	1	1	----	----	----
Clothing manufacture,	3	22	50	15	----	14	11	1	10	3	3	6	22	60	4	7	1	----	----	----	3	----	----	----
Food and kindred products,	7	89	73	66	5	12	7	1	41	17	4	16	34	75	23	41	9	----	----	2	3	----	----	----
Leather and rubber goods,	4	43	47	24	1	11	3	----	14	6	1	8	13	61	12	14	4	----	----	----	1	----	----	----
Liquors and beverages,	2	22	23	17	----	2	1	----	12	4	1	8	9	17	6	9	1	----	----	----	----	----	----	----
Lumber and its re-manufacture,	2	91	102	54	1	8	6	3	34	13	4	14	34	91	31	39	7	1	----	----	6	----	----	----
Paper and printing industries,	12	75	31	40	4	7	4	1	39	12	2	19	16	43	14	16	7	----	----	----	2	----	----	----
Textiles,	12	62	57	36	4	14	10	4	21	8	6	23	34	64	13	23	10	1	----	----	2	----	----	----
Laundries,	----	7	1	6	1	1	----	1	1	----	----	4	1	6	3	2	----	----	----	----	----	----	----	----
Metals and metal products,	604	1,846	1,631	864	55	183	77	38	614	377	595	226	613	1,293	397	834	429	5	4	----	31	1	----	4
Mines and quarries,	183	1,943	1,525	923	30	57	147	15	856	548	328	213	497	909	636	656	180	7	----	4	19	5	2	----
Public service,	151	1,271	512	660	19	22	41	12	496	292	165	126	270	413	297	477	152	1	----	----	----	3	4	3
Tobacco and its products,	----	5	3	7	----	----	1	----	2	----	----	2	2	2	1	5	1	----	----	----	----	----	----	----
Miscellaneous,	27	250	152	141	12	24	28	7	111	77	25	33	74	105	77	104	35	----	----	----	----	----	----	----
Hotels and restaurants,	7	20	16	10	4	8	2	1	17	4	1	5	11	19	2	9	----	----	----	----	----	----	----	----
Jobbers and wholesalers,	2	18	6	14	1	2	1	1	8	6	1	6	3	6	3	11	1	----	----	----	----	----	----	----
Mercantile establishments,	11	83	61	92	6	19	7	3	54	27	5	36	54	37	33	29	7	----	----	----	----	----	----	----
Municipalities,	3	27	14	34	----	3	1	4	23	7	3	6	12	4	7	22	2	----	----	----	----	----	----	----
Grand totals,	1,111	6,371	4,654	3,345	160	425	458	117	2,603	1,532	1,139	839	1,896	3,448	1,713	2,543	922	21	4	8	70	10	7	8

Table Covering All Accidents Reported in April, 1918.—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	13	261	533	----	----	2	15,923	$56,095	453	266	90	2	------	501	47	809
Chemicals and allied products,	5	73	151	----	2	6	3,891	12,135	136	91	10	------	1	179	16	237
Clay, glass and stone products,	3	88	301	----	1	8	5,171	17,029	215	163	23	1	------	332	46	401
Clothing manufacture,	------	23	46	----	9	38	2,104	5,976	30	77	9	8	4	37	7	116
Food and kindred products,	1	81	157	----	6	15	1,665	4,461	144	87	29	2	1	143	25	260
Leather and rubber goods,	1	34	89	----	1	8	1,666	4,979	80	46	7	3	------	129	20	133
Liquors and beverages,	1	17	49	----	----	----	1,056	3,164	41	21	2	------	------	67	6	67
Lumber and its re-manufacture,	2	80	179	----	3	3	4,307	11,935	168	84	15	4	------	219	20	267
Paper and printing industries,	1	56	93	----	5	13	2,743	7,328	82	72	14	1	2	94	32	168
Textiles,	1	51	90	----	20	37	3,223	29,257	89	104	15	8	4	84	16	199
Laundries,	------	6	7	----	----	4	267	589	11	4	2	1	------	14	------	17
Metals and metal products,	52	1,354	3,835	1	10	46	70,065	252,269	2,912	1,910	178	12	------	5,090	392	5,298
Mines and quarries,	99	1,336	3,386	----	----	2	72,910	270,960	2,812	1,810	101	19	------	3,497	32	4,823
Public service,	51	725	1,887	----	9	16	37,485	123,017	1,718	811	159	2	------	2,410	47	2,688
Tobacco and its products,	------	6	6	----	2	2	247	597	6	8	2	1	------	10	2	16
Miscellaneous,	12	230	379	----	8	12	11,095	38,825	371	205	65	2	------	492	32	641
Hotels and restaurants,	1	26	21	----	8	12	1,576	3,131	25	30	13	------	------	24	5	68
Jobbers and wholesalers,	------	13	30	----	----	2	751	2,639	26	15	4	2	------	26	1	45
Mercantile establishments,	3	103	146	----	9	21	6,221	14,224	121	115	46	4	------	142	8	282
Municipalities,	2	35	46	----	2	1	2,285	6,861	53	26	7	------	------	58	5	86
Grand totals,	248	4,598	11,431	1	95	248	244,651	$864,571	9,829	6,001	791	72	12	13,548	759	16,621

Table Covering All Accidents Reported in May, 1918.

Industries.	Nature of Injury.								Part Injured.									Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	27	321	187	197	9	15	74	10	159	80	24	47	81	126	114	171	38	3	----	----	4	1	----	----
Chemicals and allied products,	41	59	42	59	------	13	11	9	35	22	14	16	31	34	28	44	10	----	----	----	4	----	----	----
Clay, glass and stone products,	17	143	154	75	1	5	13	3	35	31	21	21	68	97	47	70	21	----	----	----	2	----	1	----
Clothing manufacture,	1	27	41	12	1	3	7	------	8	2	1	10	9	48	5	8	1	----	----	----	2	----	----	----
Food and kindred products,	15	81	72	59	2	11	4	3	40	17	6	22	42	72	16	27	5	----	----	1	2	----	----	----
Leather and rubber goods,	7	36	35	23	------	6	8	1	14	8	7	6	16	42	8	11	4	----	----	----	5	----	----	----
Liquors and beverages,	2	27	16	19	------	2	1	------	11	2	2	7	11	14	8	9	3	----	----	----	----	----	----	----
Lumber and its re-manufacture,	6	87	129	62	4	10	8	3	51	18	8	19	38	99	24	43	9	----	----	----	6	----	----	----
Paper and printing industries,	11	64	41	22	2	2	5	1	24	7	1	11	17	53	11	19	5	----	----	----	5	----	----	----
Textiles,	13	79	79	45	------	14	8	------	23	17	9	37	42	68	10	28	10	1	1	----	----	----	1	----
Laundries,	6	5	1	9	------	------	------	------	4	2	------	1	4	6	3	1	------	------	------	------	------	------	------	------
Metals and metal products,	560	1,751	1,561	796	39	126	123	31	572	357	503	244	503	1,195	414	828	371	5	1	1	34	4	----	5
Mines and quarries,	158	1,976	1,426	838	28	76	140	20	837	506	319	238	462	873	566	671	190	6	2	3	16	1	3	4
Public service,	186	1,383	608	678	25	20	34	8	580	265	144	162	301	507	334	473	176	2	2	----	6	4	4	----
Tobacco and its products,	------	4	2	1	------	1	1	------	------	1	------	------	5	2	------	1	------	------	------	------	------	------	------	------
Miscellaneous,	24	231	150	183	8	20	17	9	125	59	27	42	74	84	95	100	36	----	----	----	4	----	----	1
Hotels and restaurants,	6	8	22	16	4	3	------	3	15	4	------	10	15	12	3	3	------	------	------	------	------	------	------	------
Jobbers and wholesalers,	1	27	8	17	1	2	3	------	9	4	2	4	6	11	8	11	4	----	----	----	2	----	----	----
Mercantile establishments,	5	80	66	72	2	11	13	5	49	22	4	21	33	45	33	42	5	----	----	----	5	----	----	----
Municipalities,	6	27	13	36	------	3	2	2	25	12	2	4	8	8	14	14	2	----	----	----	----	----	----	----
Grand totals,	1,092	6,416	4,653	3,219	126	349	472	108	2,616	1,436	1,094	916	1,766	3,396	1,741	2,574	890	17	6	5	97	10	9	10

Table Covering All Accidents Reported in May, 1918.—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	24	265	549	----	1	1	14,301	$53,315	468	287	85	2	------	590	58	840
Chemicals and allied products,	4	66	156	----	3	5	3,996	13,698	142	81	11	1	------	193	14	234
Clay, glass and stone products,	2	77	321	----	----	11	5,618	19,539	225	170	16	5	------	352	50	411
Clothing manufacture,	------	18	36	----	4	34	1,138	3,316	29	50	13	2	3	37	12	92
Food and kindred products,	2	72	154	----	7	12	4,892	14,163	133	101	13	5	------	177	12	247
Leather and rubber goods,	------	22	86	----	1	7	1,422	4,314	64	48	4	2	------	84	11	116
Liquors and beverages,	------	19	46	----	----	2	1,003	3,357	40	25	2	------	------	58	6	67
Lumber and its re-manufacture,	4	95	201	----	1	8	4,676	13,288	175	111	23	5	------	210	18	309
Paper and printing industries,	2	30	99	----	5	13	1,985	5,545	80	64	4	3	------	87	18	148
Textiles,	1	51	127	----	8	51	3,262	8,063	103	113	22	10	4	113	17	238
Laundries,	------	4	8	----	3	6	414	922	9	12	------	------	------	5	5	21
Metals and metal products,	53	1,183	3,706	----	8	37	74,007	259,897	2,910	1,860	217	13	------	4,707	619	4,987
Mines and quarries,	110	1,298	3,252	----	1	1	71,140	171,430	2,863	1,660	139	15	------	3,378	28	4,662
Public service,	67	808	2,042	----	10	15	40,683	134,349	1,897	902	143	6	------	2,770	57	2,942
Tobacco and its products,	------	2	6	----	----	1	107	274	5	2	2	------	------	7	------	9
Miscellaneous,	8	215	400	----	8	11	10,627	39,018	304	267	71	3	------	399	17	642
Hotels and restaurants,	------	19	39	----	----	1	1,019	3,061	26	27	9	------	------	28	4	62
Jobbers and wholesalers,	------	19	39	----	----	1	1,019	3,961	36	17	6	1	------	33	1	59
Mercantile establishments,	4	80	144	----	4	22	4,470	11,116	110	124	20	4	------	123	14	254
Municipalities,	6	35	46	----	1	1	1,918	6,345	68	21	------	------	------	90	3	89
Grand totals,	289	4,381	11,442	1	74	242	248,210	$768,179	9,687	5,942	800	77	7	13,441	964	16,429

Table Covering All Accidents Reported in June, 1918.

Industries.	Nature of Injury.								Part Injured.									Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	34	289	203	204	7	22	70	7	157	75	28	67	106	124	94	155	30	----	----	2	6	----	1	----
Chemicals and allied products,	155	87	104	55	3	14	12	11	167	61	19	32	30	47	35	35	15	----	----	----	----	----	----	----
Clay, glass and stone products,	22	145	175	64	6	4	13	6	60	32	23	33	67	89	51	57	23	----	----	----	----	----	1	----
Clothing manufacture,	1	23	24	11	1	7	13	2	7	4	3	7	19	32	3	7	----	----	----	----	----	----	----	----
Food and kindred products,	8	81	76	62	1	13	10	4	40	15	3	31	36	55	26	31	12	----	----	----	1	----	----	----
Leather and rubber goods	13	46	32	26	1	8	4	1	16	9	4	11	25	45	8	13	3	----	----	----	----	----	----	----
Liquors and beverages,	2	16	16	16	----	3	1	2	7	3	2	8	9	13	5	7	2	----	----	----	----	----	----	----
Lumber and its re-manufacture,	1	73	121	46	2	9	3	----	33	14	8	23	36	76	32	25	8	1	----	----	6	----	----	----
Paper and printing industries,	7	57	43	37	----	4	9	2	20	8	7	9	25	51	12	21	6	----	----	----	4	----	----	----
Textiles,	12	56	61	40	1	7	9	3	13	10	3	23	31	58	16	27	8	----	----	3	6	----	----	1
Laundries,	1	4	2	5	----	2	1	----	3	----	----	2	1	3	3	2	1	----	----	----	----	----	----	----
Metals and metal products,	505	1,655	1,572	746	42	149	139	49	544	312	461	340	546	1,137	404	715	330	1	----	1	32	2	3	9
Mines and quarries,	153	1,999	1,404	837	31	76	132	26	841	472	294	271	493	912	571	699	186	4	----	4	14	1	2	3
Public service,	159	1,249	614	574	26	28	37	22	486	259	153	148	268	447	348	426	168	1	----	----	12	4	4	1
Tobacco and its products,	1	2	1	4	----	----	----	1	2	----	----	----	3	1	1	2	----	----	----	----	----	----	----	----
Miscellaneous,	24	194	125	146	8	21	14	10	98	47	22	42	47	68	85	93	40	----	----	1	----	----	----	----
Hotels and restaurants,	5	17	16	15	2	4	----	1	12	----	----	6	14	16	7	5	----	----	----	----	----	----	----	----
Jobbers and wholesalers,	3	19	8	19	1	----	5	----	12	----	1	6	12	4	7	10	3	----	----	----	----	----	----	----
Mercantile establishments,	5	79	53	49	2	7	10	4	33	12	2	20	31	32	26	48	5	----	----	----	4	1	----	----
Municipalities,	3	29	14	13	2	1	1	2	12	5	3	5	6	5	13	14	1	----	----	----	----	----	----	----
Grand totals.	1,114	6,111	4,658	2,969	130	379	474	147	2,563	1,388	1,036	1,085	1,895	3,215	1,747	2,302	891	7	----	11	85	8	11	14

Table Covering All Accidents Reported in June, 1918.—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	17	261	553	----	----	5	14,126	$55,322	510	241	85	1	------	644	51	836
Chemicals and allied products,	95	132	206	----	----	8	5,929	19,272	217	198	26	------	1	339	58	441
Clay, glass and stone products,	1	94	326	----	1	13	5,000	17,363	247	170	18	9	------	359	55	435
Clothing manufacture,	------	31	17	----	5	29	1,090	3,134	26	50	6	4	3	36	6	82
Food and kindred products,	------	58	175	----	2	14	3,754	12,238	143	79	27	2	1	163	16	249
Leather and rubber goods,	1	35	88	----	3	7	1,708	5,281	68	58	8	2	------	104	14	134
Liquors and beverages,	------	14	42	----	----	------	813	2,979	42	13	1	------	------	74	5	56
Lumber and its re-manufacture,	3	88	160	----	----	4	4,255	13,649	160	76	19	------	1	213	20	255
Paper and printing industries,	------	46	97	----	3	13	2,382	6,532	64	78	17	1	------	73	26	159
Textiles,	4	51	85	----	19	30	3,599	9,509	87	87	15	7	2	96	21	189
Laundries,	------	2	8	----	1	4	211	507	6	7	2	------	------	6	1	15
Metals and metal products,	37	1,111	3,631	----	24	36	63,591	256,461	2,885	1,776	178	21	------	4,628	541	4,839
Mines and quarries,	98	1,262	3,289	----	----	------	67,955	265,379	2,927	1,619	103	27	------	3,485	30	4,649
Public service,	54	719	1,920	----	2	8	37,711	129,611	1,772	821	110	5	------	2,541	59	2,703
Tobacco and its products,	------	3	5	----	1	------	161	654	6	3	------	------	------	3	------	9
Miscellaneous,	12	181	330	1	9	9	9,223	34,667	282	192	68	3	1	349	8	542
Hotels and restaurants,	1	22	19	1	8	9	1,314	2,676	31	21	8	------	------	37	3	60
Jobbers and wholesalers,	------	20	34	----	----	1	985	2,712	33	18	4	------	------	21	3	55
Mercantile establishments,	2	69	110	----	8	20	3,875	9,385	82	98	23	3	1	82	6	209
Municipalities,	3	31	31	----	----	------	1,448	4,042	47	11	7	------	------	48	11	65
Grand totals,	328	4,230	11,126	2	86	210	229,128	$851,973	9,641	5,616	725	85	10	13,295	934	15,982

Table Covering All Accidents Reported in July, 1918.

Industries.	Nature of Injury.								Part Injured.									Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	41	357	223	207	5	31	80	20	184	99	45	62	103	144	119	175	33	----	----	----	7	1	----	---
Chemicals and allied products,	42	94	43	55	------	18	10	7	64	25	14	20	24	40	24	44	14	----	----	----	4	----	----	---
Clay, glass and stone products,	30	164	143	70	7	13	12	4	65	36	18	30	65	95	32	73	30	----	----	----	1	----	3	---
Clothing manufacture,	2	33	41	12	------	6	13	2	11	2	1	5	16	59	5	8	2	----	----	----	----	----	----	---
Food and kindred products,	21	110	85	51	2	12	11	3	31	26	6	32	52	60	22	46	20	----	----	----	2	----	----	---
Leather and rubber goods,	7	41	33	24	------	8	6	2	23	6	------	14	17	37	7	11	6	----	----	----	----	----	----	---
Liquors and beverages,	3	27	17	16	1	4	------	2	12	3	1	5	18	9	11	8	3	----	----	----	----	----	----	---
Lumber and its re-manufture,	2	91	136	57	2	5	8	3	52	16	6	20	27	94	41	34	14	----	----	----	8	----	----	---
Paper and printing industries,	6	57	46	41	------	8	7	------	15	7	6	11	24	63	12	20	7	----	----	----	----	----	----	---
Textiles,	13	81	57	40	2	7	10	1	32	14	1	22	33	55	21	28	5	----	----	----	1	----	----	---
Laundries,	1	6	3	9	------	------	1	1	1	2	------	2	6	3	2	4	1	----	----	----	----	----	----	---
Metals and metal products,	531	1,716	1,660	812	43	155	142	60	596	316	509	331	538	1,171	408	826	424	5	----	3	51	3	4	18
Mines and quarries,	165	2,094	1,408	838	29	64	145	26	934	465	298	241	482	900	567	678	204	3	----	3	18	5	1	6
Public service,	186	1,342	601	589	20	15	69	11	537	261	154	160	286	476	314	467	178	----	5	----	9	5	----	---
Tobacco and its products,	2	1	1	3	------	------	3	------	------	1	------	1	4	1	1	2	------	----	----	----	----	----	----	---
Miscellaneous,	22	166	130	135	6	19	22	8	101	53	15	45	46	71	60	85	32	----	----	1	----	----	----	1
Hotels and restaurants,	4	12	13	18	3	8	2	------	10	------	------	9	18	9	5	8	1	----	----	----	1	----	----	---
Jobbers and wholesalers,	2	30	16	29	2	3	8	1	19	7	1	4	12	13	13	19	3	----	----	----	----	----	----	---
Mercantile establishments,	3	86	56	79	------	9	18	4	59	23	4	27	30	31	29	36	16	----	----	----	4	----	----	---
Municipalities,	3	26	18	30	2	2	4	3	19	11	6	8	7	10	14	11	2	----	----	1	----	----	----	---
Grand totals,	1,086	6,534	4,730	3,115	124	387	572	158	2,765	1,373	1,085	1,049	1,808	3,341	1,707	2,583	995	8	5	8	106	14	8	25

Table Covering All Accidents Reported in July, 1918.—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	22	304	695	----	2	1	15,047	$60,256	514	357	93	8	------	722	70	964
Chemicals and allied products,	10	65	185	----	3	6	3,448	12,638	161	92	16	4	1	239	16	269
Clay, glass and stone products,	2	99	325	----	5	13	5,682	20,984	253	176	15	7	1	403	65	444
Clothing manufacture,	------	16	51	----	10	32	1,358	3,440	38	66	5	10	4	47	11	100
Food and kindred products,	3	77	189	1	6	19	4,116	12,471	150	121	24	5	2	190	33	295
Leather and rubber goods,	------	41	74	----	1	5	1,940	6,015	54	58	9	4	------	102	11	121
Liquors and beverages,	1	26	43	----	----	------	1,161	3,825	41	24	5	1	------	68	4	70
Lumber and its re-manufacture,	2	84	204	----	3	11	4,357	13,446	170	110	24	10	1	262	22	304
Paper and printing industries,	3	36	105	----	4	17	2,066	5,943	70	82	13	4	------	72	26	165
Textiles,	2	59	104	----	9	37	3,130	8,590	95	100	16	12	4	74	25	211
Laundries,	------	4	8	----	4	5	465	881	12	7	2	1	------	19	------	21
Metals and metal products,	39	1,348	3,665	1	16	50	71,812	269,581	2,949	1,944	226	29	3	4,829	608	5,119
Mines and quarries,	117	1,330	3,322	----	----	------	73,083	288,318	3,000	1,639	130	39	------	3,708	17	4,769
Public service,	61	715	2,031	1	8	17	37,584	133,094	1,823	854	156	2	------	2,737	50	2,833
Tobacco and its products,	------	6	4	----	----	------	164	396	5	5	------	------	------	9	1	10
Miscellaneous,	14	183	281	1	12	17	9,152	33,288	261	189	58	2	2	300	20	508
Hotels and restaurants,	------	25	17	----	8	10	1,575	3,262	30	20	10	------	------	23	1	60
Jobbers and wholesalers,	2	30	57	----	----	2	1,516	4,461	50	33	8	1	------	71	5	91
Mercantile establishments,	1	88	136	----	11	19	4,323	12,523	124	95	36	6	1	127	14	255
Municipalities,	5	44	39	----	----	------	1,907	6,302	65	20	3	------	------	78	4	88
Grand totals,	284	4,580	11,475	4	102	261	243,886	$899,714	9,865	5,992	849	145	19	14,080	1,003	16,706

TABLE COVERING ALL ACCIDENTS REPORTED IN AUGUST, 1918.

Industries.	Nature of Injury.								Part Injured.									Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	40	336	209	168	8	33	68	21	176	81	38	62	107	106	110	158	45	1	----	----	3	----	----	2
Chemicals and allied products,	56	75	44	44	4	17	6	19	66	24	21	15	33	34	27	39	6	1	----	----	1	----	----	----
Clay, glass and stone products,	27	144	220	74	8	13	14	12	70	36	24	54	92	102	53	59	22	----	1	----	----	2	----	----
Clothing manufacture,	2	28	30	14	3	6	7	------	14	5	4	5	11	41	------	8	2	----	----	----	1	----	----	----
Food and kindred products,	23	97	76	47	6	13	13	9	53	16	4	22	43	51	23	50	22	----	----	----	7	----	----	----
Leather and rubber goods,	8	38	44	16	2	6	6	3	14	4	4	7	15	52	11	12	4	----	----	2	1	----	----	----
Liquors and beverages,	1	21	34	19	1	4	1	2	20	3	------	12	15	19	4	10	------	----	----	----	----	----	----	----
Lumber and its remanufacture,	6	95	135	42	4	5	9	2	42	18	8	15	40	103	29	32	11	----	----	----	4	----	----	----
Paper and printing industries,	15	74	42	32	1	4	6	3	31	9	------	12	32	60	8	17	8	----	----	----	3	----	----	----
Textiles,	13	73	55	35	2	5	5	9	32	12	3	24	30	56	21	15	4	----	----	1	4	----	----	----
Laundries,	------	10	2	6	------	1	1	2	7	1	------	1	3	4	5	------	1	----	----	----	----	----	----	----
Metals and metal products,	618	1,913	1,806	765	55	195	145	132	743	323	518	383	618	1,344	442	807	451	2	2	4	51	3	1	3
Mines and quarries,	182	2,201	1,489	847	32	72	125	49	1,049	527	284	224	485	932	646	632	218	1	----	3	20	2	----	1
Public service,	196	1,281	653	610	14	21	47	35	508	271	144	180	304	493	330	469	158	2	2	----	6	5	5	----
Tobacco and its products,	------	2	2	------	------	1	1	------	------	------	------	------	2	1	------	2	1	----	----	----	----	----	----	----
Miscellaneous,	29	205	180	160	9	29	20	23	130	76	40	55	46	87	90	105	26	2	----	----	6	----	1	----
Hotels and restaurants,	8	12	17	15	------	------	3	2	13	------	1	2	11	14	7	9	------	----	----	----	----	----	----	----
Jobbers and wholesalers,	3	38	12	16	3	3	7	------	18	3	3	10	12	7	12	14	3	----	----	----	----	----	----	----
Mercantile establishments,	------	82	39	69	4	7	9	4	52	9	4	19	28	30	21	42	9	1	----	----	----	----	----	----
Municipalities,	5	31	17	27	1	------	1	1	27	4	3	9	7	2	18	10	3	----	1	----	----	----	----	----
Grand total.	1,232	6,756	5,106	3,006	157	435	494	328	3,065	1,422	1,103	1,111	1,934	3,538	1,857	2,490	994	10	6	10	107	12	7	6

TABLE COVERING ALL ACCIDENTS REPORTED IN AUGUST, 1918—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	25	273	584	----	----	1	13,697	$55,516	486	312	85	6	------	627	37	883
Chemicals and allied products,	9	78	170	----	2	6	3,744	15,024	146	105	14	5	------	225	11	265
Clay, glass and stone products,	4	122	371	----	----	15	6,486	23,396	279	217	16	10	3	479	80	512
Clothing manufacture,	------	13	21	1	21	34	1,437	4,593	24	55	11	7	2	26	10	90
Food and kindred products,	5	85	178	----	8	8	4,544	14,564	146	111	27	7	------	188	17	284
Leather and rubber goods,	------	35	77	----	----	11	1,800	5,475	68	50	5	3	------	81	16	123
Liquors and beverages,	4	22	57	----	----	------	1,054	3,483	53	25	5	2	------	71	2	83
Lumber and its remanufacture,	2	115	170	----	2	9	4,932	15,018	161	106	31	8	------	205	22	298
Paper and printing industries,	2	37	110	1	11	16	2,398	6,960	77	94	6	6	------	88	25	177
Textiles,	1	44	98	----	10	44	2,720	7,732	89	98	10	8	5	97	18	197
Laundries,	------	5	10	----	3	4	356	941	13	8	1	------	------	11	1	22
Metals and metal products,	43	1,365	4,125	1	20	75	67,957	304,715	3,233	2,103	293	38	------	5,330	590	5,629
Mines and quarries,	136	1,352	3,509	----	----	------	72,522	299,106	3,167	1,701	129	38	------	3,868	11	4,997
Public service,	68	637	2,131	----	5	16	37,379	145,035	1,780	930	147	8	------	2,497	185	2,857
Tobacco and its products,	------	2	3	----	----	1	63	110	3	3	------	2	------	3	------	6
Miscellaneous,	21	199	417	----	5	13	9,540	38,637	329	246	80	9	------	397	51	655
Hotels and restaurants,	------	17	20	----	8	12	1,161	2,064	22	25	10	1	------	12	------	57
Jobbers and wholesalers,	3	23	53	----	1	2	1,147	3,423	40	36	6	1	------	47	2	82
Mercantile establishments,	1	85	100	----	4	24	3,718	10,442	82	93	39	5	------	103	5	214
Municipalities,	2	30	39	----	4	1	1,721	4,691	61	15	7	1	------	75	1	83
Grand total,	333	4,539	12,243	3	104	292	238,376	$960,925	10,259	6,333	922	165	10	14,430	1,084	17,514

TABLE COVERING ALL ACCIDENTS REPORTED IN SEPTEMBER, 1918.

Industries.	Nature of Injury.								Part Injured.									Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	38	302	199	183	7	18	62	5	142	89	32	48	91	131	98	143	40	1	----	1	6	1	----	----
Chemicals and allied products.	47	76	33	43	5	13	7	7	56	16	13	19	28	33	19	39	8	1	----	1	----	----	----	----
Clay, glass and stone products.	19	141	150	47	8	9	18	3	44	28	17	32	80	91	41	46	16	1	1	----	2	----	----	----
Clothing manufacture,	------	15	32	15	------	7	8	1	7	------	3	5	12	43	3	4	1	----	----	----	----	----	----	----
Food and kindred products.	16	102	78	51	------	17	12	2	46	14	9	25	35	71	25	37	16	----	----	----	2	----	----	----
Leather and rubber goods.	8	47	30	25	------	10	6	1	16	9	4	14	20	37	11	11	5	----	----	----	3	----	----	----
Liquors and beverages,	1	19	20	16	1	2	1	2	12	3	3	3	7	15	10	5	4	----	----	----	----	----	----	----
Lumber and its remanufacture,	3	80	112	40	2	9	10	1	35	15	4	11	42	84	19	40	7	1	----	----	7	----	----	5
Paper and printing industries.	8	63	55	17	1	3	9	------	12	16	4	14	17	56	12	20	5	----	----	1	7	----	----	----
Textiles,	17	66	60	50	4	13	5	------	31	11	7	26	28	68	16	21	7	----	----	----	6	----	----	----
Laundries,	5	1	3	5	------	------	------	2	2	1	------	3	4	4	1	1	----	----	----	----	----	----	----	----
Metals and metal products,	540	1,744	1,585	840	48	268	81	56	670	301	504	310	582	1,270	401	750	374	4	----	4	42	1	2	9
Mines and quarries,	164	1,976	1,391	785	37	90	126	23	870	494	258	203	544	837	547	637	202	2	1	2	17	3	3	5
Public service,	213	1,368	714	652	19	25	62	12	575	257	170	199	342	506	342	497	177	----	1	1	8	6	11	1
Tobacco and its products,	------	5	3	2	------	------	2	1	3	1	------	2	------	3	2	1	1	----	----	----	----	----	----	----
Miscellaneous,	26	176	200	143	8	22	14	19	116	60	41	56	63	104	52	90	26	1	----	1	5	----	----	2
Hotels and restaurants,	8	12	10	13	1	8	1	1	6	4	------	4	9	14	5	9	3	----	----	----	----	----	----	----
Jobbers and wholesalers,	2	30	12	22	3	------	2	------	22	8	1	5	6	5	5	17	2	1	----	----	----	----	----	----
Mercantile establishments,	6	88	49	77	5	7	8	1	59	16	12	34	26	32	29	27	6	3	----	----	1	----	----	----
Municipalities,	7	19	18	28	1	4	2	1	18	13	3	9	6	1	12	16	2	----	----	----	3	----	----	----
Grand total,	1,128	6,330	4,754	3,054	150	525	436	138	2,742	1,356	1,085	1,022	1,942	3,405	1,650	2,411	902	15	3	11	109	11	16	22

TABLE COVERING ALL ACCIDENTS REPORTED IN SEPTEMBER, 1918—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	11	233	568			2	11,948	$52,764	471	276	67	4		658	60	814
Chemicals and allied products,	8	68	146		5	4	4,366	15,347	139	80	12	1	1	209	9	231
Clay, glass and stone products,	2	73	301		3	16	5,409	19,135	242	149	4	4	2	373	62	395
Clothing manufacture,		16	26		8	28	1,065	3,108	27	47	4	1	2	48	16	78
Food and kindred products,	6	73	169		8	22	4,177	13,703	154	111	13	3	2	199	26	278
Leather and rubber goods,		30	89		4	4	1,568	5,288	74	48	5	1		83	18	127
Liquors and beverages,	3	22	37				995	3,784	45	16	1			92	9	162
Lumber and its remanufacture,		82	163		4	8	3,880	12,117	136	95	26	6		170	21	257
Paper and printing industries,	1	35	98		9	13	2,114	5,846	71	77	8	8	1	102	24	156
Textiles,	1	49	111	1	15	38	3,119	9,426	97	106	12	9	2	109	10	215
Laundries,		2	6		2	6	277	613	7	8	1	1		8	1	16
Metals and metal products,	38	1,375	3,651	2	22	76	71,776	307,895	3,093	1,878	203	38	2	4,999	575	5,162
Mines and quarries,	101	1,469	3,021			1	75,168	293,875	2,881	1,596	115	45		3,477	28	4,592
Public service,	63	769	2,180	1	11	41	41,451	173,872	2,030	906	129	2		2,993	57	3,065
Tobacco and its products,		3	7			3	151	401	7	4	2			11	1	13
Miscellaneous,	11	190	385	1	3	18	9,199	37,985	339	220	40	13	1	390	51	608
Hotels and restaurants,	1	16	20		5	12	1,467	2,470	23	28	3			14	3	54
Jobbers and wholesalers,		28	40		1	2	1,191	3,652	42	23	6	1		37	2	71
Mercantile establishments,	5	75	129		3	29	4,403	11,477	121	93	27	6	2	105	6	241
Municipalities,	3	36	38		3		1,662	5,756	57	18	5			67	4	80
Grand total,	254	4,644	11,185	3	106	323	245,386	$978,514	10,044	5,788	683	145	15	14,144	983	16,515

TABLE COVERING ALL ACCIDENTS REPORTED IN OCTOBER, 1918.

Industries.	Nature of Injury.								Part Injured.									Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	34	307	188	193	6	15	46	4	157	90	27	40	85	127	84	145	38	1	1	----	2	1	1	1
Chemicals and allied products,	43	69	38	28	3	9	3	14	46	25	21	9	26	36	13	26	5	1	----	----	3	----	----	----
Clay, glass and stone products,	18	133	142	72	7	12	12	5	68	28	24	30	74	78	35	41	23	----	----	----	1	----	1	----
Clothing manufacture,	2	25	21	11	1	5	8	1	10	3	1	4	10	35	3	6	2	----	----	----	----	----	----	----
Food and kindred products,	10	69	67	38	1	11	8	4	42	13	2	13	33	54	16	31	4	----	----	----	4	----	----	1
Leather and rubber goods,	2	33	31	19	2	6	7	2	16	3	2	14	13	38	7	6	3	----	----	----	2	----	----	----
Liquors and beverages,	1	13	14	9	1	----	4	2	11	4	1	2	6	11	2	4	3	----	----	----	----	----	----	----
Lumber and its remanufacture,	----	75	106	41	2	6	7	----	26	10	10	12	26	81	29	30	13	1	----	1	12	----	1	1
Paper and printing industries,	8	55	48	32	----	3	8	4	20	6	3	11	21	60	7	21	9	----	----	----	2	----	----	----
Textiles,	12	35	45	22	4	10	4	3	22	14	3	9	14	41	7	18	7	----	----	1	1	----	----	----
Laundries,	2	2	1	6	----	1	1	----	2	----	----	----	6	5	----	----	----	----	----	----	----	----	----	----
Metals and metal products,	514	1,730	1,384	822	45	154	146	25	561	293	415	258	590	1,176	374	719	434	----	2	3	45	2	3	8
Mines and quarries,	141	1,989	1,261	782	27	73	124	19	827	471	312	195	442	814	535	625	195	6	1	----	20	4	3	3
Public service,	151	1,192	562	592	12	20	43	9	499	243	137	158	245	405	308	420	166	1	2	----	4	3	8	----
Tobacco and its products,	----	3	1	1	----	----	2	----	1	----	----	----	1	2	1	2	----	----	----	----	----	----	----	----
Miscellaneous,	22	154	129	153	8	12	9	7	74	56	33	46	50	82	55	75	23	2	----	----	4	----	----	----
Hotels and restaurants,	8	11	11	9	----	3	2	1	5	4	1	7	10	6	4	8	----	----	----	----	----	----	----	----
Jobbers and wholesalers,	1	27	12	26	1	2	2	1	18	3	2	3	12	8	13	11	2	2	----	----	----	----	----	----
Mercantile establishments,	3	97	43	66	4	13	10	3	40	31	2	21	34	24	37	42	8	----	----	----	----	1	----	----
Municipalities,	5	13	12	18	----	1	1	2	13	7	3	2	8	4	7	8	----	----	----	----	1	----	----	----
Grand total,	977	6,032	4,116	2,940	124	356	447	106	2,458	1,304	999	834	1,706	3,087	1,587	2,238	935	14	6	5	101	11	17	14

TABLE COVERING ALL ACCIDENTS REPORTED IN OCTOBER, 1918—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	18	215	557	----	----	3	13,094	$62,067	460	275	58	2	------	696	81	793
Chemicals and allied products,	8	55	130	----	2	12	3,161	12,359	129	71	7	----	------	213	9	207
Clay, glass and stone products,	5	79	295	----	1	21	4,739	19,846	236	100	5	5	------	369	62	401
Clothing manufacture,	----	10	29	----	6	29	1,188	3,714	25	45	4	3	2	32	9	74
Food and kindred products,	4	49	135	----	6	14	2,945	10,279	133	71	4	1	------	159	22	208
Leather and rubber goods,	1	22	73	----	----	6	1,243	4,611	59	36	7	1	------	60	13	102
Liquors and beverages,	1	11	31	----	----	1	664	2,671	35	7	2	----	------	50	5	44
Lumber and its remanufacture,	3	76	142	----	4	12	4,298	14,494	142	83	12	6	------	141	16	237
Paper and printing industries,	4	34	103	----	6	11	2,171	6,600	71	79	8	2	------	86	39	158
Textiles,	1	26	75	----	8	25	2,083	5,999	63	60	12	5	2	60	14	135
Laundries,	----	4	6	----	3	----	313	697	7	6	----	----	------	15	------	13
Metals and metal products,	42	1,022	3,622	2	28	104	58,644	278,962	2,811	1,811	198	19	------	4,403	541	4,820
Mines and quarries,	109	1,012	3,294	----	----	1	62,192	263,766	2,762	1,580	74	31	------	3,329	14	4,416
Public service,	41	682	1,821	1	5	31	34,540	164,314	1,718	741	122	3	------	2,443	58	2,581
Tobacco and its products,	----	3	4	----	----	----	657	1,371	5	1	1	----	------	7	------	7
Miscellaneous,	8	176	289	----	5	16	8,069	34,161	284	167	43	6	1	362	16	494
Hotels and restaurants,	1	8	13	----	11	12	778	1,944	23	21	1	----	------	13	1	45
Jobbers and wholesalers,	1	28	42	----	----	1	1,694	5,944	49	16	7	1	------	52	7	72
Mercantile establishments,	2	56	149	----	10	22	4,469	11,645	106	106	27	8	------	102	6	239
Municipalities,	3	22	25	----	1	1	1,136	3,670	41	10	1	----	------	43	2	52
Grand total,	252	3,590	10,835	3	96	322	208,078	$908,844	9,159	5,346	593	93	5	12,635	915	15,098

TABLE COVERING ALL ACCIDENTS REPORTED IN NOVEMBER, 1918.

Industries.	Nature of Injury.								Part Injured.								Loss of Parts.						
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood Poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.
Building and contracting,	20	229	172	198	34	2	18	45	7	124	185	28	48	105	79	124	21							
Chemicals and allied products,	35	63	26	49	11	4	10	8	3	32	12	20	13	21	32	21	31	16						1
Clay, glass and stone products,	21	108	97	32	46	2	10	7	3	34	17	23	20	39	56	39	36	16						
Clothing manufacture,	4	29	28	9			2	14		8	1		5	7	49	3	9	4						
Food and kindred products,	11	61	58	65	4		11	7	1	44	14	12	18	15	43	18	29	5						
Leather and rubber goods,	9	44	29	21			7	4	2	14	9	3	6	18	43	6	15	2						
Liquors and beverages,	2	22	7	19			2			13	1		4	8	10	2	10	4						
Lumber and its remanufacture,	5	57	90	36	1		7	3	2	24	9	3	9	33	78	23	17	5						
Paper and printing industries,	7	50	38	22			1	2	1	18	2	3	13	18	46	10	10	1						
Textiles,	6	41	51	32	2		12	10		21	8	5	10	28	48	10	17	7						
Laundries,		6	3	10			1		1	3	2		4	5	1	3	3							
Metals and metal products,	441	1,419	1,134	703	38		124	97	45	470	272	353	187	426	926	353	639	375	1		3	49		4	4
Mines and quarries,	125	1,335	911	668	23		43	76	15	637	379	167	148	315	586	395	442	127	3	2	1	16		1	3
Public service,	134	1,039	475	524	13		11	34	7	435	232	105	105	247	339	283	370	121		4		10	5		8
Tobacco and its produets,	1	2	5							1	2			1	2	1		1							
Miscellaneous,	34	173	120	160	5		14	13	9	92	57	28	31	45	92	74	88	21	1			4		1	
Hotels and restaurants,	4	5	12	6	3		5		1	8	1		6	10	7	2	1	1					1		
Jobbers and wholesalers,	2	28	13	29	1		3	6	1	25	4	1	7	11	8	9	14	4							
Mercantile establishments,	4	82	39	104	3		5	15	3	60	18		32	51	20	26	42	6				4			
Municipalities,	3	18	13	35			2	2	1	19	11	1	4	11	4	14	9	1							
Grand total.	868	4,811	3,321	2,722	101		288	343	102	2,082	1,136	737	670	1,421	2,495	1,371	1,906	738	5	8	6	102	8	7	21

TABLE COVERING ALL ACCIDENTS REPORTED IN NOVEMBER, 1918—Continued.

Industries.	Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
	Males.			Females.												
	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	22	212	455	----	1	1	11,712	$54,585	410	235	46	3	------	559	61	691
Chemicals and allied products,	3	57	127	1	2	8	2,912	11,750	116	74	8	1	------	141	11	198
Clay, glass and stone products,	6	60	203	----	3	8	4,828	17,908	174	94	12	6	------	308	62	280
Clothing manufacture,	------	10	37	----	5	34	990	2,828	29	50	7	5	2	41	10	86
Food and kindred products,	2	76	113	----	6	21	3,682	12,147	115	89	14	1	1	151	19	218
Leather and rubber goods,	2	19	88	----	2	5	1,427	4,897	60	52	4	3	1	87	18	116
Liquors and beverages,	1	19	31	----	----	1	874	3,193	41	11	------	------	------	51	5	52
Lumber and its remanufacture,	1	69	122	----	1	8	3,371	10,801	123	66	12	6	2	153	31	201
Paper and printing industries,	2	23	77	----	3	16	1,578	4,777	57	60	4	4	1	84	21	121
Textiles,	1	36	79	----	8	30	2,285	6,915	69	70	15	6	4	65	9	154
Laundries,	1	8	7	----	1	4	1,434	1,225	11	9	1	1	1	7	1	21
Metals and metal products,	64	906	2,924	----	16	91	51,887	239,755	2,333	1,541	127	19	1	3,569	464	4,061
Mines and quarries,	74	998	2,121	----	1	2	53,790	218,078	1,960	1,176	60	25	------	2,528	22	3,196
Public service,	57	604	1,535	2	5	34	31,168	137,015	1,442	666	129	3	------	1,999	32	2,237
Tobacco and its products,	------	2	5	----	----	1	95	247	4	4	------	------	------	9	------	8
Miscellaneous,	11	168	332	1	5	11	8,752	37,728	277	208	43	7	------	306	22	528
Hotels and restaurants,	2	12	12	----	3	7	631	1,259	13	21	2	1	------	5	1	36
Jobbers and wholesalers,	2	30	47	----	1	3	1,522	6,198	46	34	3	------	------	52	4	83
Mercantile establishments,	4	87	132	----	6	26	4,679	14,742	111	115	29	10	3	100	9	255
Municipalities,	5	34	33	----	2	------	1,694	4,953	53	20	1	2	------	39	10	74
Grand total,	260	3,430	8,480	4	71	311	188,311	$791,001	7,444	4,595	517	103	16	10,254	812	12,556

TABLE COVERING ALL ACCIDENTS REPORTED IN DECEMBER, 1918.

	Nature of Injury.								Part Injured.									Loss of Parts.		
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.
Building and contracting,	21	242	140	201	5	14	27	3	143	61	21	41	66	93	81	125	25	------	------	------
Chemicals and allied products,	33	58	52	43	2	7	7	1	50	26	10	9	24	36	20	32	8	------	------	------
Clay, glass and stone products,	11	88	99	59	3	11	10	1	38	19	12	14	51	54	24	51	19	------	------	------
Clothing products,	2	14	30	9	------	3	6	2	5	3	------	2	13	35	4	4	------	------	------	------
Food and kindred products,	11	81	61	63	1	11	4	------	40	13	2	13	49	52	18	35	10	------	------	------
Leather and rubber goods,	3	36	39	22	1	15	5	1	19	8	1	7	15	54	9	7	2	------	------	------
Liquors and beverages,	1	20	25	19	------	4	1	2	15	8	------	6	12	17	4	5	5	------	------	------
Lumber and its remanufacture,	1	54	114	37	------	11	6	2	22	16	9	10	34	85	15	30	10	1	1	1
Paper and printing industries,	6	51	42	29	2	------	4	1	16	11	1	11	15	46	12	18	5	------	------	1
Textiles,	13	49	61	29	1	10	11	------	17	14	6	13	29	61	9	19	6	------	------	------
Laundries,	3	6	3	7	------	------	------	------	4	------	------	3	4	3	2	3	------	------	------	------
Metals and metal products,	425	1,465	1,185	689	38	110	72	47	497	309	314	198	434	940	340	649	349	4	------	4
Mines and quarries,	138	1,394	1,013	656	20	48	90	14	627	429	180	158	314	624	455	463	123	5	------	2
Public service,	103	1,000	487	560	10	8	24	12	418	243	101	105	216	295	284	410	132	------	2	1
Tobacco and its products,	------	3	4	4	------	1	------	------	2	1	------	------	2	3	1	2	1	------	------	------
Miscellaneous,	21	147	107	164	9	18	8	5	84	65	28	26	39	86	53	75	23	1	------	------
Hotels and restaurants,	5	13	14	11	1	2	1	------	6	4	------	5	6	14	7	3	2	------	------	------
Jobbers and wholesalers,	1	39	18	30	2	2	2	------	22	7	1	10	20	14	7	9	4	------	------	------
Mercantile establishments,	5	82	52	68	5	11	7	1	55	18	4	16	36	40	31	26	5	------	------	------
Municipalities,	------	20	8	22	1	3	2	------	19	3	1	7	4	4	11	6	1	------	------	------
Total,	803	4,863	3,554	2,722	99	289	287	101	2,099	1,252	691	654	1,383	2,550	1,387	1,972	730	11	3	9

TABLE COVERING ALL ACCIDENTS REPORTED IN DECEMBER, 1918—Continued.

	Loss of Parts.				Degree and Sex.						Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accidents due to lack of safeguards.	Total number of accidents.
					Males.			Females.												
	Fingers.	Legs.	Feet.	Toes.	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	3	1	----	----	12	212	429	----	----	3	10,828	$53,847	384	224	48	2	------	546	38	656
Chemicals and allied products,	3	------	----	----	10	69	117	----	2	11	3,264	13,186	137	62	10	------	------	200	22	209
Clay, glass and stone products,	2	------	----	----	3	64	205	----	3	7	3,734	15,145	163	115	4	8	------	273	56	282
Clothing products,	------	------	----	----	----	14	19	----	9	24	973	2,576	19	39	8	2	3	22	6	66
Food and kindred products,	5	------	----	----	2	66	145	----	4	15	3,737	12,617	129	87	16	3	------	168	21	232
Leather and rubber goods,	3	------	----	----	1	27	91	----	----	3	1,566	6,288	73	45	4	2	------	112	14	122
Liquors and beverages,	------	------	----	----	3	24	41	----	1	3	1,148	4,124	46	24	2	1	------	68	6	72
Lumber and its remanufacture,	9	------	----	----	----	78	141	----	1	5	3,773	13,109	136	77	12	3	------	142	25	225
Paper and printing industries,	4	------	----	----	----	26	89	----	6	14	1,839	5,667	60	65	10	7	------	62	21	135
Textiles,	4	------	----	----	1	35	85	----	17	36	2,488	7,853	78	79	17	6	4	60	10	174
Laundries,	------	------	----	----	----	8	6	----	1	4	430	1,330	9	9	1	------	------	3	------	19
Metals and metal products,	61	3	7	1	47	1,091	2,863	----	25	64	55,689	265,082	2,477	1,413	140	27	------	3,905	436	4,030
Mines and quarries,	17	4	----	3	86	982	2,305	----	----	----	52,676	223,295	2,086	1,242	45	34	------	2,483	14	3,373
Public service,	2	5	1	----	58	628	1,492	----	5	21	31,051	139,175	1,466	662	76	3	1	2,065	41	2,204
Tobacco and its products,	------	------	----	----	----	2	5	----	1	4	144	427	9	3	------	------	------	4	2	12
Miscellaneous,	7	------	----	----	10	188	247	----	11	23	9,085	38,478	238	202	39	1	2	272	21	479
Hotels and restaurants,	------	------	----	----	1	14	11	----	8	13	870	1,889	22	21	4	------	------	15	2	47
Jobbers and wholesalers,	------	------	----	----	2	37	52	----	1	2	1,804	7,017	56	33	5	1	1	60	3	94
Mercantile establishments,	3	------	----	----	7	71	114	1	14	24	4,382	13,593	111	93	27	3	1	77	11	231
Municipalities,	------	1	----	----	3	26	26	----	----	1	1,087	3,548	42	13	1	------	------	49	4	56
	123	14	8	4	246	3,662	8,423	1	109	277	190,568	$828,246	7,741	4,508	469	103	12	10,586	747	718

Group No. 2. FATAL ACCIDENTS.

This series of twelve tables includes fatal industrial accidents reported during the year 1918. These tables show the industry in which the accident occurred, cause of accident, nature of injury, sex and social condition, number of dependents, class of industry, and the number of fatal accidents occurring in each county in the State.

TABLE OF FATAL ACCIDENTS REPORTED IN JANUARY, 1918.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	
Building and Contracting.																											
Brick, cement and stone work,	1			1		1						3							3		1	2	2	3			3
Building construction,			1	2	1	4						4	1	3					8		4	4	1	8			8
Painting and decorating,				1								1							1		1		1	1			1
Paving and road construction,						1												1	1		1			1			1
Railway construction,						1						1							1			1		1			1
Unclassified,		1								2	1	1						1	3		3		7	3			3
Total,	1	1	1	4	1	7				2	1	10	1	3				2	17		10	7	11	17			17
Chemicals and Allied Products.																											
Chemicals,						1						1							1		1			1			1
Oils—crude,	1					1						2							2		2		2	2			2
Total,	1					2						3							3		3		2	3			3
Clay, Glass and Stone Products.																											
Pottery, terra cotta and fire clay products,			1									1							1		1		2	1			1
Total,			1									1							1		1		2	1			1

Clothing Manufacture.																											
Hosiery and knit goods,	1												1					1			1		1				1
Total,	1												1					1			1		1				1
Food and Kindred Products.																											
Flour and grist mill products,			1										1					1		1		3	1				1
Ice,									1		1							1			1		1				1
Total,			1						1		1		1					2		1	1	3	2				2
Lumber and its Re-manufacture.																											
Lumber and timber products,						1							1					1		1			1				1
Total,						1							1					1		1			1				1
Paper and Printing Industries.																											
Paper goods—not specified,				1		1					1		1					2		1	1		2				2
Printing and publishing,						2					1						1	2		1	1		2				2
Wall Paper,									1			1					1	1			1		1				1
Total,				1		3			1		2	1	1				1	5		2	3		5				5
Metals and Metal Products.																											
Agricultural implements and machinery,				1							1							1		1		5	1				1
Billets, blooms and slabs,	4	7	2	1		14			1	6	7	2	11				3	29		20	9	45	29				29
Boilers, tanks and stacks,				1									1					1		1			1				1
Cars and car wheels,									1				1					1			1		1				1
Castings—iron and steel,	2					2					3	1						4		3	1	2	4				4
Engines—stationery,					1						1							1			1		1				1
Ferro—alloys,		1							1				1				1	2		1	1		2				2
Hardware and specialties,						1					1							1		1			1				1
Hoops, bands and cotton ties,						1					1							1		1		2	1				1
Ingots—iron and steel,	2		1			1					3	1						4		4		11	4				4
Iron—pig,				1									1					1		1		4	1				1
Motors, dynamos, generators, etc.,			1										1					1		1		1	1				1
Pipes and tubing,	1	1								1	1							2		2		1	2				2
Shapes, structural,			2								1		1					2		2		1	2				2
Sheets,			1										1					1		1		3	1				1
Shovels, scoops and spades,				1													1	1		1			1				1
Garages making repairs,						1					1							1		1			1				1
Total,	9	9	7	5	1	20			3	7	20	4	18				5	54		41	13	65	54				54

TABLE OF FATAL ACCIDENTS REPORTED IN JANUARY, 1918—Continued.

	Cause.										Nature of Injury.							Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	
Mines and Quarries.																										
Sand and gravel,	----	----	----	----	----	----	----	----	----	2	----	1	----	----	----	----	----	1	2	----	2	----	2	----	2	----	2
Stone—crushed,	1	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	4	----	1	----	1
Coal—anthracite,	4	13	22	5	----	20	----	----	----	3	4	31	10	13	----	----	----	9	67	----	47	20	68	----	67	----	67
Coal—bituminous,	2	1	22	1	----	18	----	2	----	----	----	28	3	12	1	----	1	1	46	----	29	17	60	----	46	----	46
Total,	7	14	44	6	----	38	----	2	----	5	4	61	13	25	1	----	1	11	116	----	79	37	134	----	116	----	116
Public Service.																										
Repair shops,	----	----	----	1	----	8	----	----	----	----	----	3	3	2	----	----	----	1	9	----	9	----	6	----	----	9	9
Coal and navigation companies,	----	----	----	----	----	1	----	----	----	----	----	----	----	1	----	----	----	----	1	----	1	----	2	----	----	1	1
Electric light, heat and power companies,	1	1	1	1	----	1	----	----	----	----	2	----	----	3	----	----	----	----	5	----	2	3	6	----	----	5	5
Steam railroads,	1	1	----	----	----	59	----	----	----	1	2	43	6	6	1	----	----	4	62	----	47	15	25	----	----	62	62
Electric railway companies,	----	----	----	----	----	1	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	5	----	----	1	1
Total,	2	2	1	2	----	70	----	----	----	1	7	47	9	12	1	----	----	5	78	----	60	18	44	----	----	78	78
Miscellaneous.																										
Ship and boat building.	3	----	----	1	1	4	----	----	----	----	----	3	----	6	----	----	----	----	9	----	6	3	8	9	----	----	9
Unclassified,	1	1	----	----	----	2	----	----	----	3	2	2	----	1	----	----	----	2	6	1	4	3	----	7	----	----	7
Total,	4	1	----	1	1	6	----	----	----	3	2	5	----	7	----	----	----	2	15	1	10	6	8	16	----	----	16

Hotels and restaurants,	1			1							1	1							1	1	2			2			2
Total,	1			1							1	1							1	1	2			2			2
Mercantile establishments,	1	1	1	1				1			1	4						1	5		4	1	4	5			5
Total,	1	1	1	1				1			1	4						1	5		4	1	4	5			5
Jobbers and wholesalers,						1												1	1		1		2	1			1
Total,						1												1	1		1		2	1			1
Municipalities,			4	2					3		3	2	4					9		9		7			9	9
Total,			4	2					3		3	2	4					9		9		7			9	9
Grand total,	27	28	60	23	3	148		3	19	20	158	30	72	2		1	27	309	2	224	87	282	108	116	87	311

Total Accidents by Counties.	Total.
Allegheny,	43
Armstrong,	1
Beaver,	6
Berks,	4
Blair,	4
Bradford,	1
Bucks,	10
Butler,	2
Cambria,	13
Carbon,	3
Centre,	1
Chester,	7

Total Accidents by Counties.	Total.
Clarion,	1
Clearfield,	2
Clinton,	1
Columbia,	1
Dauphin,	6
Delaware,	10
Erie,	7
Fayette,	13
Forest,	1
Huntingdon,	3
Indiana,	5
Jefferson,	3

Total Accidents by Counties.	Total.
Lackawanna,	15
Lawrence,	3
Lehigh,	2
Luzerne,	26
McKean,	1
Mercer,	8
Montgomery,	5
Northampton,	8
Northumberland,	7
Perry,	1
Philadelphia,	28
Schuylkill,	29

Total Accidents by Counties.	Total.
Somerset,	3
Sullivan,	1
Susquehanna,	1
Tioga,	1
Washington,	9
Westmoreland,	13
York,	2
Total,	311

TABLE OF FATAL ACCIDENTS REPORTED IN FEBRUARY, 1918.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single		Industrial.	Mines.	Public service.	
Building and Contracting.																											
Brick, cement and stone work,				2									2						2			2		2			2
Building construction,				1						1				2					2		2		1	2			2
Railway construction,						2						2							2		2		2	2			2
Structural iron work (erecting),	1			1										2					2		1	1	2	2			2
Building contracting (unclassified),			4	2	1							5	1	1					7		4	3	3	7			7
Total,	1		4	6	1	2				1		7	3	5					15		9	6	8	15			15
Chemicals and Allied Products.																											
Chemicals,										1		1							1		1		3	1			1
Oils—crude,	1	1									1	1							2		2		2	2			2
Oils—refined kerosene, etc.,					1											1			1		1			1			1
Powder and other explosives,		1								1		1		1					2		2		6	2			2
Sulphuric, nitric and mixed acids,		3									1							2	3		2	1		3			3
Wood alcohol and acetate of lime,	1													1					1		1		3	1			1
Total,	2	5			1					2	2	3		2		1		2	10		9	1	14	10			10

Clay, Glass and Stone Products.																													
Bricks,			3								2						1	3		3		7	3			3
Cement,			1								1						1	1		1			1			1
Lime,	1										1							1			1		1			1
Pottery, terra cotta and fire clay products,			1			1					1		1					2		1	1	1	2			2
Total,	1		5			1					4		2				1	7		5	2	8	7			7
Food and Kindred Products.																													
Slaughtering and meat packing,									1			1						1		1		4	1			1
Total,									1			1						1		1		4	1			1
Leather and Rubber Goods.																													
Boots and shoes—rubber,					1								1					1		1		4	1			1
Total,					1								1					1		1		4	1			1
Liquors and Beverages. Liquors—Malt.																													
						1							1					1		1			1			1
						1							1					1		1			1			1
Lumber and its Re-manufacture.																													
Lumber and timber products,	1									1								1		1			1			1
Total,	1									1								1		1			1			1
Metals and Metal Products.																													
Billets, blooms and slabs,	1	4	2			7				5	4	10	2	3					19		13	6	21	19			19
Cars and car wheels,	1											1							1			1		1			1
Castings—iron and steel,						1				1			2						2		1	1		2			2
Engines—stationery,			1									1							1		1		2	1			1
Iron—pig,						1							1						1		1		4	1			1
Machinery and parts,	3					1						2		1			1	4		4		9	4			4
Motors, dynamos, generators, etc.,						1						1						1			1		1			1
Pipes and tubing,	1											1						1		1			1			1
Radiators,						1								1				1		1		2	1			1
Shapes—structural,	1																1	1			1		1			1
Sheets,			1										1					1		1		3	1			1
Garages making repairs,						1						1						1		1		3	1			1
Total,	7	4	4			13				6	4	17	5	6			2	34		24	10	44	34			34

TABLE OF FATAL ACCIDENTS REPORTED IN FEBRUARY, 1918—Continued.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	Total.
Mines and Quarries.																											
Sand and gravel,	2										2								2		2		2		2		2
Slate—roofing,	1			1								1				1			2		2				2		2
Stone—crushed,			1			1						1		1					2		1	1			2		2
Coal—anthracite,	6	3	23	2		19		1		3		30	6	17				4	57		38	19	71		57		57
Coal—bituminous,	2	7	22	1		19		1		4	1	32	5	11	1			6	56		41	15	61		56		56
Total,	11	10	46	4		39		2		7	3	64	11	29	1	1		10	119		84	35	134		119		119
Public Service.																											
Repair shops,						2						1		1					2		2		2			2	2
Electric light, heat and power companies,			1	1									1	1					2		2					2	2
Gas companies,		1		1		1					1	1		1					3		3		3			3	3
Steam railroads,	2	2	1	1		58				3	4	47	5	6				5	67		50	17	18			67	67
Electric railway companies,						1						1							1			1				1	1
Telephone companies,		1																1	1		1					1	1
Total,	2	4	2	3		62				3	5	50	6	9				6	76		58	18	23			76	76

Tobacco and its Products.																											
Cheroots and stogies,						1						1							1			1		1			1
Total,						1						1							1			1		1			1
Miscellaneous.																											
Asbestos products,				2									2						2			2		2			2
Ship and boat building,	1		2	2		2				2		1	1	5		1		1	9		8	1	4	9			9
Oil well supplies,		1																1	1		1		2	1			1
Miscellaneous unclassified,		1																1	1			1		1			1
Total,	1	2	2	4		2				2		1	1	7		1		3	13		9	4	6	13			13
Hotels and restaurants,						1						1							1		1		1	1			1
Total,						1						1							1		1		1	1			1
Mercantile establishments,		1				1						2							2		2			2			2
Total,		1				1						2							2		2			2			2
Jobbers and wholesalers,			1			1				1		3							3		3		6	3			3
Total,			1			1				1		3							3		3		6	3			3
Municipalities,	1					1				3		2	3						5		4	1	4			5	5
Total,	1					1				3		2	3						5		4	1	4			5	5
Grand total,	27	26	64	17	3	125		2		26	15	155	30	62	1	3		24	290		212	78	256	90	119	81	290

Total Accidents by Counties.	Total.
Allegheny,	57
Armstrong,	3
Beaver,	3
Bedford,	1
Blair,	3
Bucks,	1
Butler,	2
Cambria,	10
Cameron,	1
Carbon,	5
Centre,	4
Chester,	1

Total Accidents by Counties.	Total.
Clarion,	1
Clearfield,	5
Clinton,	1
Columbia,	2
Crawford,	1
Cumberland,	2
Dauphin,	4
Delaware,	13
Elk,	2
Erie,	2
Fayette,	13
Forest,	1

Total Accidents by Counties.	Total.
Indiana,	5
Jefferson,	1
Lackawanna,	12
Lancaster,	1
Lawrence,	1
Lehigh,	5
Luzerne,	31
Lycoming,	3
Mercer,	3
Mifflin,	2
Montgomery,	7
Northampton,	5

Total Accidents by Counties.	Total.
Northumberland,	5
Perry,	1
Philadelphia,	23
Schuylkill,	17
Somerset,	4
Venango,	1
Warren,	3
Washington,	9
Wayne,	1
Westmoreland,	12
Total,	290

TABLE OF FATAL ACCIDENTS REPORTED IN MARCH, 1918.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	
Building and Contracting.																											
Brick, cement and stone work,				1								1						1	1		1			1			1
Building construction,			1	3		3						5		1				1	7		5	2	7	7			7
Painting and decorating,				3										2				1	3		3			3			3
Paving and road construction,	1			2		1						2	1	1					4		4		5	4			4
Railway construction,						2						1		1					2		1	1	4	2			2
Roofing and sheet metal work,	1													1					1		1		1	1			1
Structural iron work (erecting),		1	3									2		1				1	4		2	2	4	4			4
Building and contracting (unclassified),		1				2						1		1				1	3		2	1	1	3			3
Total,	2	2	4	9		8						12	1	8				4	25		19	6	22	25			25
Chemicals and Allied Products.																											
Oils—crude,	1													1					1		1			1			1
Powder and other explosives,						1						1							1		1		1	1			1
Soap,			1										1						1		1			1			1
Total,	1		1			1						1	1	1					3		3		1	3			3

Clay, Glass and Stone Products.																												
Brick,						2						1		1					2		2		7	2			2
Cement,		1																1	1		1		5	1			1
Glass—plate,						1						1							1			1		1			1
Total,		1				3						2		1					4		3	1	12	4			4
Food and Kindred Products.																												
Chocolate and cocoa products,			1									1							1			1		1			1
Flour and grist mill products,				1		1						1		1					2		2			2			2
Total,			1	1		1						2		1					3		2	1		3			3
Leather and Rubber Goods.																												
Boots and shoes,										1								1	1			1		1			1
Total,										1								1	1			1		1			1
Liquors and Beverages.																												
Liquor—malt,						2				2		2		1				1	4		3	1	3	4			4
Total,						2				2		2		1				1	4		3	1	3	4			4
Lumber and its Re-manufacture.																												
Lumber and timber products,	1		1									2							2			2		2			2
Planing mill products,										1						1			1		1			1			1
Total,	1		1							1		2				1			3		1	2		3			3
Paper and Printing Industries.																												
Pulp goods,					1													1	1		1		1	1			1
Total,					1													1	1		1		1	1			1
Textiles.																												
Dyeing and finishing textiles,				1		1						2							2		1	1		2			2
Total,				1		1						2							2		1	1		2			2
Laundries,										1	1								1		1			1			1
Total,										1	1								1		1			1			1
Metals and Metal Products.																												
Billets, blooms and slabs,	8	7	4	1		11					5	11	2	12				1	31		23	8	54	31			31
Castings, iron and steel,		1								1	1			1					2		1	1		2			2
Engines—Railroad,	2													1		1			2		2		4	2			2
Fire arms and ammunition,		1										1							1		1			1			1
Iron—pig,	2					1					1	1		1					3		3		3	3			3
Machinery and parts,						1						1							1		1			1			1

TABLE OF FATAL ACCIDENTS REPORTED IN MARCH, 1918—Continued.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	
Building and Contracting.																											
Machine repair shops,	----	----	----	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	1	----	----	1	----	----	1
Machine tools,	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	1	----	1	----	----	1	----	----	1
Motors, dynamos, generators, etc.,	----	----	----	----	----	----	----	----	----	1	----	1	----	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Pipes and tubing,	2	----	----	1	----	----	----	----	----	----	----	----	----	1	1	----	----	1	3	----	1	2	----	3	----	----	3
Scrap, iron and steel,	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	1	----	1	----	----	1	----	----	1
Smelting and refining,	----	----	----	----	----	1	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	2	1	----	----	1
Tin and terne plate,	----	----	----	----	----	----	----	----	----	1	----	----	----	1	----	----	----	----	1	----	1	----	----	1	----	----	1
Total,	15	10	4	2	1	14	----	----	----	3	8	16	2	18	1	1	----	3	49	----	37	12	63	49	----	----	49
Mines and Quarries.																											
Clay,	----	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	2	----	1	----	1
Sand and gravel,	1	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	1	----	2	----	1	----	1
Slate—other than roofing,	----	----	1	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	1	----	4	----	1	----	1
Stone,	----	2	1	----	----	----	----	----	----	----	----	----	2	1	----	----	----	----	3	----	3	----	9	----	3	----	3
Stone—crushed,	----	----	----	----	----	1	----	----	----	----	----	----	----	1	----	----	----	----	1	----	----	1	----	----	1	----	1
Coal—anthracite,	1	8	30	2	1	6	----	----	----	4	2	34	5	9	----	----	----	2	52	----	35	17	48	----	52	----	52
Coal—bituminous,	5	5	23	1	2	5	----	----	----	1	1	21	2	12	1	----	----	5	42	----	28	14	37	----	42	----	42
Total,	7	15	56	3	3	12	----	----	----	5	3	56	9	25	1	----	----	7	101	----	69	32	102	----	101	----	101

Public Service.																												
Repair shops,					1	1				3		2	2					1	5		4	1	2			5	5
Auto transit companies,						1												1	1		1					1	1
Canal and navigation companies,				2								2							2		2		4			2	2
Gas companies,										1				1					1		1		2			1	1
Gas companies (natural),									1					1					1		1					1	1
Gas and electric companies,			1											1					1		1		1			1	1
Steam railroads,		1		1		46				2	1	31	5	11			1	1	50		38	12	13			50	50
Electric railway companies,						2				1				2				1	3		2	1	4			3	3
Public service, unclassified,	1							1				1		1					2			2				2	2
Total,	2	1	1	3	1	50		1		7	1	36	7	17			1	4	66		50	16	26			66	66
Miscellaneous.																												
Junk—paper, rags, etc.,			1										1						1		1			1			1
Ship and boat building,	3				1	1						1	1	2				1	5		3	2	3	5			5
Miscellaneous unclassified,				1						1		1		1					2		1	1		2			2
Total,	3		1	1	1	1				1		3	1	3				1	8		5	3	3	8			8
Mercantile establishments,			2			2						1		1				2	4		3	1	3	4			4
Total,			2			2						1		1				2	4		3	1	3	4			4
Jobbers and wholesalers,	2									1		2		1					3		2	1		3			3
Total,	2									1		2		1					3		2	1		3			3
Municipalities,		2	1	1		1		1		2	1	2		3	1			1	8		5	3	3			8	8
Total,		2	1	1		1		1		2	1	2		3	1			1	8		5	5	3			8	8
Grand total,	33	31	72	21	7	96		2		24	14	139	21	80	3	2	1	26	286		205	81	239	111	101	74	286

Total Accidents by Counties.	Total.	Total Accidents by Counties.	Total.	Total Accidents by Counties.	Total.	Total Accidents by Counties.	Total.
Allegheny,	45	Clearfield,	3	Lackawanna,	17	Schuylkill,	10
Armstrong,	12	Clinton,	1	Lancaster,	3	Somerset,	2
Beaver,	1	Columbia,	2	Lawrence,	2	Tioga,	2
Bedford,	2	Dauphin,	6	Luzerne,	23	Washington,	9
Berks,	3	Delaware,	10	Lycoming,	1	Westmoreland,	13
Blair,	2	Elk,	1	McKean,	2	York,	1
Bucks,	2	Erie,	2	Monroe,	1		
Cambria,	15	Fayette,	17	Montgomery,	1		
Cameron,	1	Franklin,	1	Northampton,	8		
Carbon,	4	Huntingdon,	3	Northumberland,	9		
Centre,	2	Indiana,	2	Perry,	1		
Chester,	3	Jefferson,	3	Philadelphia,	38	Total,	286

TABLE OF FATAL ACCIDENTS REPORTED IN APRIL, 1918.

	Cause.											Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	
Building and Contracting.																											
Building construction,	1		1	1								3							3		2	1	2	3			3
Painting and decorating,		1		1								1		1					2		1	1		2			2
Railway construction,		2				1				1	1	1						2	4		4		1	4			4
Roofing and sheet metal work,				2								1						1	2		1	1		2			2
Building and contracting, unclassified,						2						1		1					2		2		3	2			2
Total,	1	3	1	4		3				1	1	7		2				3	13		10	3	8	13			13
Chemicals and Allied Products.																											
Chemicals,		1								1								2	2		2		3	2			2
Oils—refined, kerosene, etc.,	1			1								1		2					2		2		2	2			2
Powder and other explosives,		1																	1		1			1			1
Total,	1	2		1						1		1		2				2	5		5		5	5			5
Clay, Glass and Stone Products.																											
Brick,	1											1							1		1		2	1			1
Cement,	1		1									1	1						2		2			2			2
Total,	2		1									2	1						3		3		2	3			3

Food and Kindred Products.																											
Bread and other baking products,				1							1							1			1		1			1
Total,				1							1							1			1		1			1
Leather and Rubber Goods.																											
Boots and shoes,				1									1					1		1			1			1
Total,				1									1					1		1			1			1
Liquors and Beverages.																											
Liquors—malt,									1		1							1		1			1			1
Total,									1		1							1		1			1			1
Lumber and its Re-manufacture.																											
Lumber and timber products,			2										2					2		2			2			2
Total,			2										2					2		2			2			2
Paper and Printing Industries.																											
Pulp goods,		1								1								1			1		1			1
Total,		1								1								1			1		1			1
Textiles.																											
Cotton goods,					1										1			1		1			1			1
Total,					1										1			1		1			1			1
Metal and Metal Products.																											
Automobiles and parts,					1									1				1			1		1			1
Billets, blooms and slabs,	5	4	1	2		7				3	6	9		6				1	22		16	6	23	22			22
Bolts, nuts and rivets,		8									8								7	1	4	4	4	8			8
Cars and car wheels,		1								1			1					1	2		1	1		2			2
Castings—iron and steel,	4	1				1				1	2	2	2	1					7		5	2	3	7			7
Engines—gas and gasoline,						1						1							1		1			1			1
Engines—stationery,	1													1					1		1		2	1			1
Hardware and specialties,			2									2							2		2		1	2			2
Iron—pig,				1									1						1			1		1			1
Machinery and parts,				1									1						1			1		1			1
Machine repair shops,					1							1							1		1			1			1
Pipes and tubing,	1		1									2							2		2		3	2			2
Railroad supplies,				1									1						1		1			1			1
Shapes—structural			1											1					1		1		2	1			1
Tin and terne plate,	1													1					1		1		1	1			1
Ware tin and stamped,									1		1								1		1			1			1
Total,	12	14	5	5	2	9			6	16	18	6	10	1			2	52	1	37	16	39	53			53

TABLE OF FATAL ACCIDENTS REPORTED IN APRIL, 1918—Continued.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	Total.
Mines and Quarries.																											
Sand and gravel,	----	----	----	----	----	----	----	----	----	1	----	1	----	----	----	----	----	----	1	----	1	----	1	----	1	----	1
Stone,	----	----	----	----	----	1	----	----	----	----	----	----	1	----	----	----	----	----	1	----	----	1	----	----	1	----	1
Stone—crushed,	----	1	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	----	----	1	----	1
Coal—anthracite,	4	6	18	----	3	12	----	----	----	3	1	24	7	12	----	----	1	1	46	----	31	15	59	----	46	----	46
Coal—bituminous,	3	3	29	1	1	9	----	----	----	4	2	23	4	18	----	----	----	3	50	----	36	14	51	----	50	----	50
Total,	7	10	47	1	4	22	----	----	----	8	3	49	12	30	----	----	1	4	99	----	69	30	111	----	99	----	99
Public Service.																											
Repair shops,	----	----	----	----	1	3	----	1	----	----	----	4	----	1	----	----	----	----	5	----	4	1	7	----	----	5	5
Gas companies (natural),	----	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	1	----	----	1	1
Steam railroads,	2	2	----	----	1	39	----	----	----	----	4	24	3	11	----	----	----	2	44	----	31	13	12	----	----	44	44
Electric railway companies,	----	----	----	1	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	1	----	1	----	----	1	1
Total,	2	2	1	1	2	42	----	1	----	----	4	29	3	13	----	----	----	2	51	----	37	14	21	----	----	51	51
Miscellaneous.																											
Ship and boat building,	1	1	----	3	----	4	----	----	----	2	1	4	2	4	----	----	----	----	11	----	9	2	9	11	----	----	11
Miscellaneous, unclassified,	----	----	----	1	----	----	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	----	1	----	----	1
Total,	1	1	----	4	----	4	----	----	----	2	1	5	2	4	----	----	----	----	12	----	10	2	9	12	----	----	12

Hotels and restaurants,				1								1							1		1			1			1
Total,				1								1							1		1			1			1
Mercantile establishments,			1	1		1						2		1					3			3		3			3
Total,			1	1		1						2		1					3			3		3			3
Municipalities,			1							1		1	1						2		2					2	2
Total,			1							1		1	1						2		2					2	2
Grand total,	26	33	59	20	9	81		1		20	26	117	25	65	1	1	1	13	348	1	179	70	195	97	99	53	249

Total Accidents by Counties.	Total.	Total Accidents by Counties.	Total.	Total Accidents by Counties.	Total.	Total Accidents by Counties.	Total.
Allegheny,	44	Clearfield,	4	Lawrence,	1	Pike,	1
Armstrong,	8	Clinton,	1	Lebanon,	1	Schuylkill,	11
Beaver,	1	Columbia,	4	Lehigh,	1	Susquehanna,	1
Bedford,	2	Cumberlad,	1	Luzerne,	22	Venango,	2
Berks,	9	Dauphin,	5	Lycoming,	1	Washington,	8
Blair,	2	Delaware,	8	Mercer,	5	Westmoreland,	11
Bucks,	1	Erie,	4	Montgomery,	2	Wyoming,	1
Cambria,	12	Fayette,	10	Northampton,	7		
Carbon,	1	Indiana,	4	Northumberland,	6		
Chester,	2	Jefferson,	2	Perry,	2		
Clarion,	2	Lackawanna,	12	Philadelphia,	80	Total,	249

TABLE OF FATAL ACCIDENTS REPORTED IN MAY, 1918.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	Total.
Building and Contracting.																											
Brick, cement and stone work,				1										1					1		1		1	1			1
Building construction,	1		2	7		2						8		4					12		9	3	13	12			12
Paving and road construction,						1						1							1		1			1			1
Railway construction,						3						3							3		2	1	5	3			3
Roofing and sheet metal work,		1	1								1	1							2		2		4	2			2
Structural iron work (erecting),			1	1						1		3							3		1	2		3			3
Building and contracting (unclassified),			1			1						1						1	2		2		2	2			2
Total,	1	1	5	9		7				1	1	17		5				1	24		18	6	24	24			24
Chemicals and Allied Products.																											
Chemicals,										1	1								1			1		1			1
Oils, refined, kerosene, etc.,										1	1								1		1			1			1
Powder and other explosives,		2									1	1							2		1	1		2			2
Total,		2								2	3	1							4		2	2		4			4
Clay, Glass and Stone Products.																											
Brick,	2											2							2		2		4	2			2
Total,	2											2							2		2		4	2			2

Food and Kindred Products.																											
Chocolate and cocoa products,					1										1			1		1		1	1			1
Ice,						1					1							1			1		1			1
Total,					1	1					1				1			2		1	1	1	2			2
Lumber and its Re-manufacture.																											
Lumber and timber products,			2			1					3							3		2	1	2	3			3
Planing mill products,									1		1							1			1		1			1
Total,			2			1			1		4							4		2	2	2	4			4
Paper and Printing Industries.																											
Printing and publishing,						2					2							2		1	1	1	2			2
Total,						2					2							2		1	1	1	2			2
Textiles.																											
Textiles, unclassified,				1									1					1		1			1			1
Total,				1									1					1		1			1			1
Metals and Metal Products.																											
Billets, blooms and slabs,	8	4	4	3	1	4				3	5	14		7	1				27		20	7	44	27			27
Cars and car wheels,										1				1					1		1			1			1
Castings—Iron and steel,	2	1	1								1	2	1						4		3	1	6	4			4
Elevators and hoists,	1											1							1			1		1			1
Engines—Railroad,	1	1		1								1		2					3		2	1	2	3			3
Engines—stationery,	1													1					1			1		1			1
Fire arms and ammunition,	1	2										1		1				1	1	2	2	1	6	3			3
Iron—pig,						2						1		1					2		2		9	2			2
Machinery and parts,	2				1							1		2					3		1	2		3			3
Machine repair shops,		1									1								1		1			1			1
Pipes and tubing,			1			1					1	1							2		2		5	2			2
Plates—iron and steel,				1										1					1		1			1			1
Shapes—structural,	2		1								3								3		1	2	2	3			3
Smelting and refining,						1								1					1		1		5	1			1
Total,	18	9	7	5	2	8				4	7	25	2	17	1			1	51	2	37	16	79	53			53
Mines and Quarries.																											
Stone,	1					2						3							3		3		9		3		3
Stone—crushed,			1											1					1		1				1		1
Coal—anthracite,	2	7	31	1		11					1	30	6	14				1	52		44	8	74		52		52
Coal—bituminous,		3	22	3	1	20				5	1	26	3	21				3	54		35	19	84		54		54
Total,	3	10	54	4	1	33				5	2	59	9	36				4	110		83	27	167		110		110

TABLE OF FATAL ACCIDENTS REPORTED IN MAY, 1918—Continued.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	Total.
Public Service.																											
Repair shops,	1													1					1			1				1	1
Auto transit companies,						1						1							1			1				1	1
Electric light, heat and power companies,		2									1			1					2		2		4			2	2
Gas and electric companies,		1									1								1			1				1	1
Steam railroads,	1	3	1		2	50					4	35	13	5					57		46	11	26			57	57
Electric railway companies,		1									1								1			1				1	1
Telephone companies,		1				1				1	1	1	1						3		2	1	3			3	3
Public service, unclassified,	1												1						1			1				1	1
Total,	3	8	1		2	52				1	8	37	15	7					67		50	17	33			67	67
Miscellaneous.																											
Ship and boat building,	1		1							1				2				1	3		1	2	2	3			3
Miscellaneous, unclassified,				4	1								1	4					5		4	1		5			5
Total,	1		1	4	1					1			1	6				1	8		5	3	2	8			8
Hotels and restaurants,		1		1						1	1	1						1	2	1	2	1	3	3			3
Total,		1		1						1	1	1						1	2	1	2	1	3	3			3

Mercantile establishments,	----	----	----	1	----	3	----	----	----	----	----	2	1	----	----	----	----	1	4	----	3	1	----	4	----	----	4
Total,	----	----	----	1	----	3	----	----	----	----	----	2	1	----	----	----	----	1	4	----	3	1	----	4	----	----	4
Municipalities,	----	----	1	2	1	2	----	----	----	----	----	----	1	3	----	1	----	1	6	----	4	2	5	----	----	6	6
Total,	----	----	1	2	1	2	----	----	----	----	----	----	1	3	----	1	----	1	6	----	4	2	5	----	----	6	6
Grand total,	28	31	71	27	8	109	----	----	----	16	22	151	29	75	1	2	----	10	287	3	211	79	321	107	110	73	290

Total Accidents by Counties.	Total.
Allegheny,	38
Armstrong,	1
Beaver,	5
Bedford,	3
Berks,	2
Blair,	6
Bucks,	3
Cambria,	12
Carbon,	7
Centre,	2
Chester,	2
Clarion,	1

Total Accidents by Counties.	Total.
Clearfield,	2
Clinton,	1
Columbia,	1
Dauphin,	4
Delaware,	8
Elk,	3
Erie,	4
Fayette,	21
Greene,	1
Indiana,	5
Jefferson,	1
Lackawanna,	14

Total Accidents by Counties.	Total.
Lancaster,	2
Lawrence,	5
Lebanon,	1
Lehigh,	3
Luzerne,	28
Lycoming,	4
Mercer,	7
Montgomery,	5
Northampton,	9
Northumberland,	6
Perry,	1
Philadelphia,	32

Total Accidents by Counties.	Total.
Schuylkill,	8
Somerset,	2
Sullivan,	1
Susquehanna,	1
Union,	2
Washington,	13
Westmoreland,	12
York.	1
Total,	299

TABLE OF FATAL ACCIDENTS REPORTED IN JUNE, 1918.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	Total.
Building and Contracting.																											
Brick, cement and stone work,					1									1					1			1		1			1
Building construction,				1	1							1		1		1			2		1	1		2			2
Painting and decorating,				1										1					1			1		1			1
Paving and road construction,			1									1							1		1			1			1
Plumbing and heating,				1	1							1				1			2		2		5	2			2
Railway construction,						2						1	1						2		2		3	2			2
Roofing and sheet metal works,				2								1		1					2		1	1	3	2			2
Structural iron works (erecting),	2			2								2		2					4		1	3		4			4
Unclassified,		1				1					1			1					2		1	1	3	2			2
Total,	2	1	1	7	3	3					1	6	1	7		2			17		9	8	14	17			17
Chemicals and Allied Products.																											
Chemicals,		1									1								1		1			1			1
Powder and other explosives,		93								1	93		1						94		47	47	60	94			94
Total,		94								1	94		1						95		48	47	60	95			95
Clay, Glass and Stone Products.																											
Cement,			1											1					1		1		1	1			1
Total,			1											1					1		1		1	1			1

Leather and Rubber Goods.																													
Rubber goods not specified,										1									1	1		1		1	1			1	
Total,										1									1	1		1		1	1			1	
Lumber and its Re-manufacture.																													
Boxes, cigars,						1							1						1			1		1				1	
Lumber and timber products,	1											1							1		1			1				1	
Planing mill products,					1									1					1			1		1				1	
Total,	1				1	1						1	1	1					3		1	2		3				3	
Textiles.																													
Silk, silk goods and throwsters,				1									1						1			1		1				1	
Yarns,	2											1	1						2		1	1		2				2	
Unclassified,				1								1							1			1		1				1	
Total,	2			2								2	2						4		1	3		4				4	
Metals and Metal Products.																													
Bars—iron and steel,				1		1						1					1		2		2			2				2	
Billets, blooms and slabs,	6	4	1	2		3				3	3	5	1	6			2	2	19		12	7	18	19				19	
Cars and car wheels,	2													2					2		2		2	2				2	
Castings—iron and steel,	1				1							1		1					2		2			2				2	
Engines—railroad,	1					1				1		1	1	1					3		2	1	1	3				3	
Forgings—iron and steel,	1												1						1		1			1				1	
Machinery and parts,	1										1								1			1		1				1	
Motors, dynamos, generators, etc.,	1												1	1					2		2			2				2	
Pipes and tubing,			1									1							1		1			1				1	
Saws,										1								1	1		1			1				1	
Scrap—iron and steel,										1			1						1		1			1				1	
Shapes—structural,			1									1							1		1		1	1				1	
Tin and terne plate,					1									1					1		1		2	1				1	
Total,	13	4	3	3	2	5				6	4	10	5	12			3	3	37		28	9	24	37				37	
Mines and Quarries.																													
Clay,		1				1						2							2		1	1	1		2			2	
Coal—anthracite,	2	11	23	1	1	5		1		3	6	22	4	13				2	47		34	13	79		47			47	
Coal—bituminous,	1	2	36	1	1	7				1	2	30	1	14	1			1	49		35	14	64		49			49	
Total,	3	14	59	2	2	13		1		4	8	54	5	27	1			3	98		70	28	144		98			98	

TABLE OF FATAL ACCIDENTS REPORTED IN JUNE, 1918—Continued.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	Total.
Public Service.																											
Auto transit companies,	----	----	----	----	1	1	----	----	----	----	----	----	----	1	----	----	----	1	2	----	----	2	----	----	----	2	2
Canal and navigation companies,	----	----	----	----	----	----	----	----	----	2	----	----	----	----	----	----	----	2	2	----	1	1	----	----	----	2	2
Electric light, heat and power companies,	----	3	----	1	----	----	----	----	----	----	2	----	----	1	----	----	----	1	4	----	3	1	2	----	----	4	4
Steam railroads,	1	----	1	2	----	29	----	----	----	1	----	16	16	2	----	----	----	----	34	----	26	8	7	----	----	34	34
Electric railway companies,	----	2	----	1	----	7	----	----	----	----	1	4	1	3	----	----	----	1	10	----	9	1	7	----	----	10	10
Telephone companies,	----	----	----	1	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	1	----	1	----	----	1	1
Unclassified,	----	----	----	----	----	1	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	2	----	----	1	1
Total,	1	5	1	5	1	38	----	----	----	3	3	21	17	8	----	----	----	5	54	----	41	13	19	----	----	54	54
Miscellaneous.																											
Oil cloth and linoleum,	----	----	1	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	1	----	----	1	----	----	1
Plants and flowers,	1	----	----	----	1	----	----	----	----	----	----	----	----	----	----	2	----	----	2	----	2	----	6	2	----	----	2
Ship and boat building,	1	----	----	2	----	1	----	----	----	3	----	1	----	3	----	2	----	1	7	----	4	3	7	7	----	----	7
Unclassified,	----	----	----	1	----	2	----	----	----	----	----	----	----	2	----	----	----	1	2	1	3	----	1	3	----	----	3
Total,	2	----	1	3	1	3	----	----	----	3	----	1	----	6	----	4	----	2	12	1	10	3	14	13	----	----	13

Hotels and restaurants,		1				1					1	1						1	1	1	1		2			2
Total,		1				1					1	1						1	1	1	1		2			2
Mercantile establishments,			1							1				1				1	2		1	1		2			2
Total,			1							1				1				1	2		1	1		2			2
Municipalities,			1	1						1		2					1		3		2	1	1			3	3
Total,			1	1						1		2					1		3		2	1	1			3	3
Grand total,	24	119	68	23	10	64		2		20	111	98	32	63	1	6	4	15	328	2	214	116	278	175	98	57	330

Total Accidents by Counties.	Total.
Allegheny,	121
Beaver,	5
Berks,	2
Blair,	4
Bucks,	2
Butler,	1
Cambria,	4
Cameron,	3
Carbon,	5
Clarion,	1
Clearfield,	8

Total Accidents by Counties.	Total.
Crawford,	2
Cumberland,	2
Dauphin,	9
Delaware,	9
Elk,	1
Erie,	4
Fayette,	10
Forest,	1
Franklin,	1
Greene,	1
Indiana,	5

Total Accidents by Counties.	Total.
Jefferson,	6
Lackawanna,	21
Lancaster,	1
Lawrence,	1
Lebanon,	2
Lehigh,	4
Luzerne,	16
Mercer,	2
Mifflin,	2
Montgomery,	7
Northumpton,	6

Total Accidents by Counties.	Total.
Northumberland,	2
Philadelphia,	22
Schuylkill,	9
Somerset,	2
Susquehanna,	1
Union,	1
Warren,	2
Washington,	16
Westmoreland,	6
Total,	330

TABLE OF FATAL ACCIDENTS REPORTED IN JULY, 1918.

	Cause.										Nature of Injury.										Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	
Building and Contracting.																													
Building construction,	1	1	1	2						2		3		3				1	7		6	1	11	7			7
Electrical construction,		2									1							1	2			2		2			2
Painting and decorating,						1						1							1			1		1			1
Plumbing and heating,										1								1	1			1		1			1
Railway construction,						1						1							1		1		4	1			1
Roofing and sheet metal work,				1														1	1		1			1			1
Structural iron work (erecting),	1				1							1				1			2		1	1	4	2			2
Building and contracting (unclassified),	1	2	1	1		2					2	3		1			1		7		6	1	15	7			7
Total,	3	5	2	4	1	4				3	3	9		4		1	1	4	22		15	7	34	22			22
Chemicals and Allied Products.																													
Chemicals,										1	1								1			1		1			1
Fertilizers,	1											1							1		1			1			1
Powder and other explosives,		7			1						7							1	8		2	6	7	8			8
Total,	1	7			1					1	8	1						1	10		3	7	7	10			10

Clay, Glass and Stone Products.																											
Brick,		1															1	1		1		6	1			1
Cement,					1								1					1		1		7	1			1
Total,		1			1								1				1	2		2		13	2			2
Food and Kindred Products.																											
Bread and other bakery products,					1					1							1		1		5	1			1
Coffee and spices, roasting etc.,					1					1							1			1		1			1
Confectionery,	1											1						1		1		1			1
Slaughtering and meat packing,	1															1	1		1		1	1			1
Total,	2				2					2		1				1	3	1	2	2	6	4			4
Liquors and Beverages.																											
Liquor—malt,									1		1						1		1			1			1
Total,									1		1						1		1			1			1
Lumber and its Re-manufacture.																											
Lumber and timber products,			1							1							1			1		1			1
Planing mill products,			1									1					1		1			1			1
Total,			2							1		1					2		1	1		2			2
Paper and Printing Industries.																											
Paper and goods not specified,					1							1					1		1		4	1			1
Printing and publishing,									1			1					1		1			1			1
Pulp goods,	1									1							1		1			1			1
Total,	1				1				1	1	1	1					3		3		4	3			3
Textiles.																											
Silk, silk goods and throwsters,	1			1						1		1					2		1	1		2			2
Total,	1			1						1		1					2		1	1		2			2
Metals and Metal Products.																											
Bars—iron and steel,				1								1					1		1			1			1
Billets, blooms and slabs,	6	3	2	1	3				1	4	3	3	5			1	16		10	6	12	16			16
Cars and car wheels,	1		1										2				2		2		2	2			2
Castings—iron and steel,		1								1							1		1		3	1			1
Engines—railroads,	1				1							1	1				2		2		5	2			2
Fire arms and ammunition,	1			1						1			1				2			2		2			2
Forgings—iron and steel,	1													1			1			1		1			1
Hardware and specialties,	1														1		1			1		1			1
Hoops, boards and cotton ties,		1								1							1			1		1			1
Iron—pig,	1	1			1					1	2						3		3		2	3			3
Machine tools,		1								1							1			1		1			1
Motors, dynamos, generators, etc.,		1										1					1		1			1			1

TABLE OF FATAL ACCIDENTS REPORTED IN JULY, 1918—Continued.

	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines.	Public service.	Total.
Plates—iron and steel,	1	1									1	1							2		2			2			2
Shapes—structural,			1									1							1		1		1	1			1
Shapes—other iron and steel,	1													1						1		1		1			1
Stoves, heaters and ranges,						1							1						1		1			1			1
Wire products,										3								3	3			3		3			3
Total,	14	9	4	2	2	5				4	10	7	7	10	1	1		4	39	1	24	16	25	40			40
Mines and Quarries.																											
Sand and gravel,			1									1							1			1		1			1
Slate—roofing,		1									1								1		1			1			1
Stone,			1											1					1			1		1			1
Coal—anthracite,	4	15	27	1		11				2	6	27	7	13			1	6	60		44	16	93	60			60
Coal—bituminous,	1	3	33	2		14				1		33	6	13			1	1	54		35	19	67	54			54
Total,	5	19	62	3		25				3	7	61	13	27			2	7	117		80	37	160	117			117
Public Service.																											
Repair shops,	1					1						2							2		1	1	1			2	2
Canals and navigation companies,				1										1					1		1					1	1
Electric light, heat and power companies,		3									1							2	3		3		6			3	3
Gas companies,	1											1							1		1						1

Steam railroads,	----	1	----	----	----	47	----	----	----	1	2	18	23	5	----	----	----	1	48	1	36	13	20	----	----	49	49
Electric railroad companies,	----	----	1	1	----	3	----	----	----	----	----	1	4	----	----	----	----	----	5	----	3	2	4	----	----	5	5
Unclassified,	----	----	----	----	----	1	----	----	----	----	----	----	1	----	----	----	----	----	1	----	1	----	1	----	----	1	1
Total,	2	4	1	2	----	52	----	----	----	1	3	22	28	6	----	----	----	3	61	1	46	16	32	----	----	62	62
Miscellaneous.																											
Ship and boat building,	2	----	3	3	----	----	----	----	----	1	----	2	1	4	----	----	----	2	9	----	4	5	11	9	----	----	9
Coke,	----	----	1	1	----	----	----	----	----	----	----	----	----	2	----	----	----	----	2	----	2	----	----	2	----	----	2
Unclassified,	1	----	1	----	----	2	----	----	----	----	----	2	1	----	----	----	----	1	3	1	3	1	----	4	----	----	4
Total,	3	----	5	4	----	2	----	----	----	1	----	4	2	6	----	----	----	3	14	1	9	6	11	15	----	----	15
Mercantile establishments,	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Total,	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Jobbers and wholesalers,	----	2	----	----	----	----	----	----	----	----	2	----	----	----	----	----	----	----	2	----	----	2	----	2	----	----	2
Total,	----	2	----	----	----	----	----	----	----	----	2	----	----	----	----	----	----	----	2	----	----	2	----	2	----	----	2
Municipalities,	----	----	----	3	----	----	----	----	----	2	----	----	1	1	----	----	1	2	5	----	3	2	----	----	----	5	5
Total,	----	----	----	3	----	----	----	----	----	2	----	----	1	1	----	----	1	2	5	----	3	2	----	----	----	5	5
Grand total,	32	48	76	19	4	92	----	----	----	17	34	110	52	59	1	2	4	26	284	4	190	98	292	104	117	67	288

Total Accidents by Counties.	Total.
Allegheny,	38
Armstrong,	4
Beaver,	4
Bedford,	1
Blair,	5
Bucks,	1
Butler,	1
Cambria,	13
Cameron,	1
Carbon,	2
Chester,	4
Clarion,	1
Clearfield,	1

Total Accidents by Counties.	Total.
Clinton,	1
Columbia,	1
Crawford,	3
Dauphin,	8
Delaware,	13
Elk,	3
Erie,	2
Fayette,	16
Forest,	1
Huntingdon,	1
Indiana,	4
Jefferson,	1
Lackawanna,	11

Total Accidents by Counties.	Total.
Lancaster,	1
Lebanon,	2
Lehigh,	1
Luzerne,	33
Lycoming,	5
Mercer,	5
Mifflin,	6
Montgomery,	5
Northampton,	5
Northumberland,	5
Perry,	3
Philadelphia,	21
Potter,	1

Total Accidents by Counties.	Total.
Schuylkill,	17
Somerset,	6
Tioga,	1
Venango,	1
Washington,	10
Wayne,	1
Westmoreland,	17
York,	1
Total.	288

TABLE OF FATAL ACCIDENTS REPORTED IN AUGUST, 1918.

Industry.	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Building and Contracting.																											
Brick, cement and stone work,	----	----	3	2	1	1	----	----	----	----	----	4	1	2	----	----	----	----	7	----	7	----	13	7	----	----	7
Building construction,	----	----	3	4	----	2	----	----	----	1	----	4	1	4	----	----	----	1	10	----	5	5	9	10	----	----	10
Painting and decorating,	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	1	1	----	1	----	4	1	----	----	1
Plumbing and heating,	----	----	----	1	----	----	----	----	----	----	----	1	----	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Structural iron work (erecting),	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	1	1	----	----	1	----	1	----	----	1
Unclassified,	----	----	1	----	----	3	----	----	----	1	----	3	1	----	----	----	----	1	5	----	3	2	2	5	----	----	5
Total,	----	----	7	8	1	6	----	----	----	3	----	12	3	6	----	----	----	4	25	----	16	9	28	25	----	----	25
Chemicals and Allied Products.																											
Chemicals,	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	1	1	----	1	----	----	1	----	----	1
Grease and tallow,	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Oils—crude,	1	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	1	----	1	----	----	1	----	----	1
Oils—refined, kerosene, etc.,	----	----	1	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	----	1	----	1	----	----	1
Powder and other explosives,	----	5	----	----	----	----	----	----	----	----	5	----	----	----	----	----	----	----	5	----	4	1	11	5	----	----	5
Total,	1	6	1	----	----	----	----	----	----	1	6	1	----	1	----	----	----	1	9	----	6	3	11	9	----	----	9
Clay, Glass and Stone Products.																											
Brick,	1	----	----	----	----	----	----	----	----	1	----	1	----	----	----	----	----	1	2	----	2	----	3	2	----	----	2
Glass—window,	----	----	----	----	1	----	----	----	----	----	----	----	1	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Lime,	----	----	----	----	----	1	----	----	----	----	----	----	1	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Total,	1	----	----	----	1	1	----	----	----	1	----	1	2	----	----	----	----	1	4	----	2	2	3	4	----	----	4

Clothing Manufacture.																										
Clothing, men's,				1							1							1		1			1			1
Total,				1							1							1		1			1			1
Food and Kindred Products.																										
Bread and other bakery products,	1											1						1		1		3	1			1
Ice,				1					3		1						3	4		3	1	3	4			4
Total,				1		1			3		1		1				3	5		4	1	6	5			5
Liquors and Beverages.																										
Carbonated beverages,				1									1					1		1		2	1			1
Liquors—malt,	1			1					1			1	1				1	3		3		4	3			3
Total,				1		2			1			1	2				1	4		4		6	4			4
Lumber and Its Remanufacture.																										
Lumber and timber products,	1												1					1			1		1			1
Wood—turned and carved,				1							1							1		1		1	1			1
Total,	1		1								1		1					2		1	1	1	2			2
Paper and Printing Industries.																										
Labels and tags,		1									1								1		1		1			1
Pulp goods,	1									1								1		1			1			1
Wall paper,			1										1					1		1			1			1
Total,	1	1		1						1	1		1					2	1	2	1		3			3
Textiles.																										
Woolen, worsted and felt goods,	1																1	1		1			1			1
Total,	1																1	1		1			1			1
Metals and Metal Products.																										
Bars—iron and steel,						1				1								1		1		7	1			1
Billets, blooms and slabs,	6	6	3	1		5		1	3	5	4	4	7	2			3	24	1	13	12	22	25			25
Cars and car wheels,						1					1							1		1			1			1
Castings—iron and steel,		2	1			1			1	1	2						2	5		5		12	5			5
Engines—railroad,			1						1		1						1	2		2		4	2			2
Forgings—iron and steel,		1															1	1		1		1	1			1
Hardware and specialties,	1											1						1			1	1	1			1
Machinery and parts,					1								1					1		1			1			1
Pipes and tubing,	1								3				1				3	4		4		4	4			4
Plates—iron and steel,		1									1							1			1		1			1
Sheets,			1							1								1		1			1			1
Tin and terne plate,				1									1					1		1		3	1			1
Total,	8	10	6	2	1	8		1	8	8	9	5	10	2			10	43	1	30	14	54	44			44

TABLE OF FATAL ACCIDENTS REPORTED IN AUGUST, 1918—Continued.

Industry.	Cause.									Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	Total.
Mines and Quarries.																											
Stone,						1								1					1		1		5		1		1
Stone—crushed,	1											1							1		1		4		1		1
Coal—anthracite,	4	12	29			11				5	7	27	5	16				6	61		38	23	72		61		61
Coal—bituminous,		16	34	1	3	13				6	12	25	8	20	1	1		6	73		57	16	109		73		73
Total,	5	28	63	1	3	25				11	19	53	13	37	1	1		12	136		97	39	190		136		136
Public Service.																											
Repair shops,	1		1		1	1						2		2					4		3	1	8			4	4
Auto transit companies,						1						1							1		1		2			1	1
Canal and navigation companies,						1				4				1				4	5		5					5	5
Electric light, heat and power companies,		5									4							1	5		4	1	5			5	5
Gas companies,																			1			1				1	1
Gas and electric companies,		1									1								1			1				1	1
Steam railroads,	1	4		1	1	40				1	1	21	16	7				3	48		35	13	25			48	48
Electric railway companies,		1				1						1						1	2		1	1				2	2
Telephone companies,		1									1								1			1				1	1
Total,	2	12	1	1	2	44				6	7	25	16	10				10	68		49	19	40			68	68

Miscellaneous.																													
Caskets and undertakers' supplies,										1									1	1		1			1			1	
Ship and boat building,	3	1	2	8	1			1				3	1	10	1			1	16		10	6	9	16			16	
Oil well supplies,						1						1							1			1		1			1	
Unclassified,				1						2				2				1	3		3		1	3			3	
Total,	3	1	2	9	1	1		1		3		4	1	12	1			3	21		14	7	10	21			21	
Mercantile establishments,										1								1	1		1		4	1			1	
Total,										1								1	1		1		4	1			1	
Jobbers and wholesalers,				3								1		2					3		2	1		3			3	
Total,				3								1		2					3		2	1		3			3	
Municipalities,		1	2	1	1	1				3		6	1	1				1	9		7	2	12			9	9	
Total,		1	2	1	1	1				3		6	1	1				1	9		7	2	12			9	9	
Grand total,	24	59	83	29	10	88		2		41	41	116	42	84	4	1	1	47	334	2	237	99	365	123	136	77	336	

Fatal Accidents by Counties.

Adams,	1
Allegheny,	53
Armstrong,	6
Beaver,	4
Berks,	5
Blair,	2
Bradford,	1
Bucks,	5
Butler,	1
Cambria,	10
Cameron,	1
Carbon,	1

Fatal Accidents by Counties.

Centre,	1
Chester,	2
Clarion,	1
Clearfield,	3
Clinton,	1
Crawford,	1
Dauphin,	12
Delaware,	17
Erie,	5
Fayette,	16
Greene,	2
Huntingdon,	1

Fatal Accidents by Counties.

Indiana,	5
Jefferson,	2
Lackawanna,	9
Lawrence,	1
Lehigh,	8
Luzerne,	30
Lycoming,	2
Mercer,	3
Mifflin,	1
Montgomery,	1
Northampton,	6
Northumberland,	9

Fatal Accidents by Counties.

Philadelphia,	37
Schuylkill,	22
Somerset,	5
Susquehanna,	2
Venango,	4
Warren,	2
Washington,	21
Westmoreland,	11
York,	3
Total,	336

TABLE OF FATAL ACCIDENTS REPORTED IN SEPTEMBER, 1918.

Industry.	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Building and Contracting.																											
Brick, cement and stone work,			1									1							1		1			1			1
Railway construction,	1					1						1	1						2		2		3	2			2
Structural iron work (erecting),	2		1											2	1				3		2	1		3			3
Unclassified,			4			1						4		1					5		3	2	3	5			5
Total,	3		6			2						6	1	3	1				11		8	3	6	11			11
Chemicals and Allied Products.																											
Chemicals,				1						2	2	1							3		2	1	4	3			3
Glue and gelatin,		1									1								1		1		1	1			1
Oils—refined, kerosene, etc.,		1										1							1		1			1			1
Powder and other explosives,		2								1	1	1						1	3		2	1	1	3			3
Total,		4		1						3	5	2						1	8		6	2	6	8			8
Clay, Glass and Stone Products.																											
Cement,		1	1								1			1					2		2		12	2			2
Total,		1	1								1			1					2		2		12	2			2

Food and Kindred Products.																										
Bread and other bakery products,						2						1	1						2		2		1	2			2
Butter, cheese and condensed milk,						1							1						1		1		1	1			1
Canned and preserved goods,		1									1								1			1		1			1
Flour and grist mill products,				1										1					1		1			1			1
Ice cream,										1							1		1			1		1			1
Total,		1		1		3				1	1	1	2	1			1		6		4	2	2	6			6
Liquors and Beverages.																										
Liquors—malt,		1		2										1	1			1	3		2	1		3			3
Total,		1		2										1	1			1	3		2	1		3			3
Paper and Printing Industries.																										
Printing and publishing,				1									1						1		1			1			1
Total,				1									1						1		1			1			1
Textiles.																										
Woolen, worsted and felt goods,	1												1							1		1		1			1
Unclassified,		1																	1			1		1			1
Total,	1	1										1	1						1	1		2		2			2
Metal and Metal Products.																										
Automobiles and parts,						1							1						1		1			1			1
Bars—iron and steel,	1	2	1			2				2	2	2		3				1	8		4	4	3	8			8
Billets, blooms and slabs,	5	1	1			1				2	1	5		2				2	10		7	3	14	10			10
Boilers, tanks and stacks,	1											1							1		1		4	1			1
Cars and car wheels,	1													1					1			1		1			1
Castings—iron and steel,	3		2									2	1	2					5		5		3	5			5
Engines—railroad,	1			1								1		1					2		1	1	1	2			2
Motors, dynamos, generators, etc.,	1													1					1		1		2	1			1
Pipes and tubing,			1			1								1				1	2		2		6	2			2
Saws,										1								1	1		1			1			1
Stoves, heaters and ranges,			1	1								1			1				2		2			2			2
Garages making repairs,						3				1		1		2				1	4		1	3	1	4			4
Total,	13	3	6	2		8				6	3	13	2	13	1			6	38		26	12	34	38			38
Mines and Quarries.																										
Sand and gravel,					1	1				1		1	1					1	3		1	2	6		3		3
Stone,				1								1							1		1		4		1		1
Coal—anthracite,	3	6	23	2	1	8				2	2	20	2	16	1		1	3	45		27	18	53		45		45
Coal—bituminous,	3	1	31	1		14				2	2	32	6	11				1	52		41	11	70		52		52
Total,	6	7	54	4	2	23				5	4	54	9	27	1		1	5	101		70	31	133		101		101

TABLE OF FATAL ACCIDENTS REPORTED IN SEPTEMBER, 1918—Continued.

Industry.	Cause.										Nature of Injury.							Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	Total.
Public Service.																										
Repair shops,	----	2	2	----	----	1	----	----	----	----	2	2	----	----	----	1	----	----	5	----	3	2	2	----	----	5	5
Electric light, heat and power companies,	1	2	----	----	----	----	----	----	----	----	1	----	----	1	----	----	----	1	3	----	3	----	1	----	----	3	3
Steam railroads,	1	4	----	2	----	39	----	----	1	1	2	20	20	1	----	----	----	5	47	1	32	16	19	----	----	48	48
Electric railway companies,	----	----	----	----	----	3	----	----	----	----	----	1	1	1	----	----	----	----	3	----	3	----	3	----	----	3	3
Unclassified,	----	----	----	----	----	4	----	----	----	1	----	1	2	2	----	----	----	----	5	----	3	2	5	----	----	5	5
Total,	2	8	2	2	----	47	----	----	1	2	5	24	23	5	----	1	----	6	63	1	44	20	30	----	----	64	64
Miscellaneous.																										
Asbestos products,	1	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	----	1	----	1	----	----	1
Coke,	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	1	1	----	1	----	2	1	----	----	1
Ship and boat building,	2	----	1	2	----	----	----	----	----	----	----	1	1	2	----	----	----	1	5	----	3	2	----	5	----	----	5
Toys and games,	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	1	1	----	----	1	----	1	----	----	1
Unclassified,	----	2	----	----	----	1	----	----	----	1	2	1	----	----	----	----	1	----	3	1	3	1	5	4	----	----	4
Total,	3	2	1	2	----	2	----	----	----	2	2	2	1	3	----	----	1	3	11	1	7	5	7	12	----	----	12
Hotels and restaurants,	1	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	----	1	----	1	----	----	1
Total,	1	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	----	1	----	1	----	----	1

Mercantile establishments,	1	1	----	----	----	2	----	----	----	1	1	1	2	----	----	----	----	1	5	----	5	----	----	5	----	----	5
Total,	1	1	----	----	----	2	----	----	----	1	1	1	2	----	----	----	----	1	5	----	5	----	----	5	----	----	5
Municipalities,	----	----	----	----	----	1	----	----	----	2	----	1	----	----	----	----	1	1	3	----	3	----	----	----	----	3	3
Total,	----	----	----	----	----	1	----	----	----	2	----	1	----	----	----	----	1	1	3	----	3	----	----	----	----	3	3
Grand total,	30	29	70	15	2	88	----	----	1	22	22	105	42	55	4	1	4	24	254	3	178	79	230	89	101	67	257

Fatal Accidents by Counties.

Allegheny,	48
Armstrong,	2
Beaver,	2
Berks,	2
Blair,	2
Bucks,	2
Butler,	1
Cambria,	10
Carbon,	1
Chester,	4
Clarion,	1

Fatal Accidents by Counties.

Clearfield,	1
Clinton,	2
Crawford,	3
Cumberland,	1
Dauphin,	9
Delaware,	12
Erie,	2
Fayette,	7
Franklin,	1
Indiana,	8
Jefferson,	6

Fatal Accidents by Counties.

Lackawanna,	13
Lebanon,	1
Lehigh,	3
Luzerne,	22
Lycoming,	1
Mercer,	1
Montgomery,	6
Northampton,	4
Northumberland,	7
Perry,	1
Philadelphia,	24

Fatal Accidents by Counties.

Schuylkill,	9
Somerset,	5
Susquehanna,	1
Venango,	4
Washington,	9
Westmoreland,	19
Total,	257

TABLE OF FATAL ACCIDENTS REPORTED IN OCTOBER, 1918.

Industry.	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Building and Contracting.																											
Brick, cement and stone work,	1											1							1		1			1			1
Building construction,										1								1	1		1			1			1
Painting and decorating,		1									1								1			1		1			1
Paving and road construction,				2										2					2		1	1					2
Railway construction,	1					1							2						2		2			2			2
Roofing and sheet metal work,				1										1					1			1		1			1
Structural iron work (erecting),				1										1					1			1		1			1
Unclassified,			1	3	1	2				2		5	1	2				1	9		5	4	14	9			9
Total,	2	1	1	7	1	3				3	1	6	3	6				2	18		10	8	14	18			18
Chemicals and Allied Products.																											
Chemicals,		1									1								1			1		1			1
Dyestuffs and extracts,	1												1						1		1			1			1
Glue and gelatin,										1							1		1		1		1	1			1
Oils—refined, kerosene, etc.,						1								1					1			1		1			1

Powder and other explosives,		3									2						1	3		1	2	1	3			3
Tan,										1							1	1		1			1			1
Total,	1	4				1				2	3		1	1			1	2	8		4	4	2	8			8
Clay, Glass and Stone Products.																															
Brick,	1		1									1		1					2			2		2			2
Cement,		1				1					1			1					2		2		2	2			2
Pottery, terra cotta and fire clay products,	1												1						1		1		2	1			1
Total,	2	1	1			1					1	1	1	2					5		3	2	4	5			5
Food and Kindred Products.																															
Bread and other bakery products,	1												1						1		1			1			1
Chocolate and cocoa products,	1																	1	1		1			1			1
Flour and grist mill products,	1											1							1			1		1			1
Ice,					1							1							1		1			1			1
Total,	3				1							2	1					1	4		3	1		4			4
Leather and Rubber Goods.																															
Leather, tanned, curried and finished,					1							1							1		1		1	1			1
Total,					1							1							1		1		1	1			1
Liquors and Beverages.																															
Liquors—malt,				1										1					1		1			1			1
Total,				1										1					1		1			1			1
Lumber and Its Remanufacture.																															
Carriages, wagons and parts,	1													1					1		1			1			1
Lumber and timber products,			1										1						1		1			1			1
Planing mill products,										1		1							1		1			1			1
Total,	1		1							1		1	1	1					3		3			3			3
Paper and Printing Industries.																															
Boxes—fancy and paper,						1						1							1		1			1			1
Printing and publishing,				1														1	1			1		1			1
Pulp goods,										1		1							1		1		1	1			1
Roofing Paper,										1								1	1		1			1			1
Total,				1		1				2		2						2	4		3	1	1	4			4

TABLE OF FATAL ACCIDENTS REPORTED IN OCTOBER, 1918—Continued.

Industry.	Cause.									Nature of Injury.								Sex.		Social Condition.		Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.	Number of dependents.	Industrial.	Mines and quarries.	Public service.	Total.
Textiles.																											
Silk and silk goods and throwsters,						1								1					1			1		1			1
Total,						1								1					1			1		1			1
Metals and Metal Products.																											
Axles,			1											1					1			1		1			1
Bars—iron and steel,	1											1							1			1		1			1
Billets, blooms and slabs,	7	1	2	2	1	3				2	1	2	3	8	1			3	17	1	15	3	20	18			18
Cars and car wheels,	1											1							1		1			1			1
Castings—iron and steel,	2											1		1					2		2		3	2			2
Engines—railroad,	1													1					1		1		2	1			1
Files,					1									1					1			1		1			1
Fire arms and ammunition,		4	1							1	3	1	1					1	5	1	6		1	6			6
Ingots—iron and steel,						1		1				2							2		1	1	9	2			2
Machinery and parts,				1	1							1		1					2		2			2			2
Machine repair shops,						1								1					1		1			1			1
Nails and spikes,	1										1								1		1		2	1			1
Pipes and tubing,		1									1								1		1			1			1
Shafting—cold rolled, drawn and turned,	1											1							1			1		1			1
Shapes—structural,						1					1								1		1			1			1
Smelting and refining,		1									1								1		1		1	1			1

Tin and terne plate,	1										1						1		1		2	1			1				
Wire products,	1											1					1		1		6	1			1				
Garages making repairs,					1						1						1		1		3	1			1				
Total,	16	7	4	3	3	7		1		3	8	12	5	14	1			4	42	2	36	8	49	44			44			
Mines and Quarries.																													
Clay,			1											1					1		1		1		1		1		
Ore—iron,		1												1					1		1				1		1		
Coal—anthracite,	2	5	27	1	2	13				5	2	29	6	14	1			3	55		37	18	72		55		55		
Coal—bituminous,	3	3	27	1	1	15				2	3	25	4	18				2	52		36	16	61		52		52		
Total,	5	9	55	2	3	28				7	5	54	10	34	1			5	109		75	34	134		109		109		
Public Service.																													
Repair shops,						1							1						1			1				1	1		
Electric light, heat and power companies,		2									2								2		1	1	1			2	2		
Steam railroads,	2	1				27				2	3	9	17	1			1	1	31	1	23	9	11			32	32		
Electric railway companies,						4						2	1	1					4		4		5			4	4		
Unclassified,				1		2						1	1	1					3		2	1	2			3	3		
Total,	2	3		1		34				2	5	12	20	3			1	1	41	1	30	12	19			42	42		
Miscellaneous.																													
Coke,		1											1						1			1		1			1		
Ship and boat building,	3			2										5					5		4	1	6	5			5		
Oil well supplies,	1											1							1		1		1	1			1		
Unclassified,										1		1							1			1		1			1		
Total,	4	1		2						1		2	1	5					8		5	3	7	8			8		
Hotels and restaurants,				1										1					1		1			1			1		
Total,				1										1					1		1			1			1		
Mercantile establishments,				1		1						1						1	2			2		2			2		
Total,				1		1						1						1	2			2		2			2		
Jobbers and wholesalers,					1											1			1		1			1			1		
Total,					1											1			1		1			1			1		

TABLE OF FATAL ACCIDENTS REPORTED IN OCTOBER, 1918—Continued.

Industry.	Cause.										Nature of Injury.							Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains, and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Municipalities,	----	1	1	----	----	1	----	----	----	----	----	1	----	1	----	----	----	1	3	----	2	1	5	----	----	3	3
Total,	----	1	1	----	----	1	----	----	----	----	----	1	----	1	----	----	----	1	3	----	2	1	5	----	----	3	3
Grand total,	36	27	63	19	10	78	----	1	----	21	23	95	43	70	2	1	2	19	252	3	178	77	236	101	109	45	255

Fatal Accidents by Counties.

Allegheny,	36
Armstrong,	1
Beaver,	2
Bedford,	2
Blair,	6
Bradford,	1
Cambria,	5
Carbon,	1
Chester,	1
Clarion,	2
Clearfield,	3
Clinton,	2

Fatal Accidents by Counties.

Columbia,	1
Cumberland,	2
Dauphin,	4
Delaware,	11
Elk,	1
Erie,	2
Fayette,	10
Franklin,	1
Greene,	2
Indiana,	5
Jefferson,	5
Juniata,	1

Fatal Accidents by Counties.

Lackawanna,	17
Lancaster,	3
Lawrence,	3
Lebanon,	1
Lehigh,	3
Luzerne,	25
Lycoming,	1
Mercer,	1
Mifflin,	2
Montgomery,	3
Northampton,	9
Northumberland,	8

Fatal Accidents by Counties.

Philadelphia,	25
Schuylkill,	13
Somerset,	5
Tioga,	2
Warren,	1
Washington,	11
Westmoreland,	10
Wyoming,	1
York,	4
Total,	255

TABLE OF FATAL ACCIDENTS REPORTED IN NOVEMBER, 1918.

Industry.	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Females.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Building and Contracting.																											
Brick, cement and stone work,	----	----	----	3	----	----	----	----	----	----	----	2	----	1	----	----	----	----	3	----	2	1	----	3	----	----	3
Railway construction,	----	----	----	1	----	1	----	----	----	----	----	----	1	----	----	----	1	----	2	----	2	----	2	2	----	----	2
Roofing and sheet metal work,	----	----	----	1	----	1	----	----	----	----	----	2	----	----	----	----	----	----	2	----	----	2	----	2	----	----	2
Structural iron work (erecting),	1	----	1	1	----	----	----	----	----	----	----	----	1	2	----	----	----	----	3	----	1	2	----	3	----	----	3
Unclassified,	3	1	1	1	----	5	----	----	----	1	----	3	4	4	----	----	----	1	12	----	9	3	13	12	----	----	12
Total.	4	1	2	7	----	7	----	----	----	1	----	7	6	7	----	----	1	1	22	----	14	8	15	22	----	----	22
Chemicals and Allied Products.																											
Chemicals,	----	----	----	----	----	1	----	----	----	----	----	----	----	1	----	----	----	----	1	----	----	1	----	1	----	----	1
Powder and other explosives,	----	3	----	----	----	----	----	----	----	----	----	----	3	----	----	----	----	----	2	1	1	2	1	3	----	----	3
Total.	----	3	----	----	----	1	----	----	----	----	----	----	3	1	----	----	----	----	3	1	1	3	1	4	----	----	4
Clay, Glass and Stone Products.																											
Brick,	----	----	----	1	----	1	----	----	----	1	----	3	----	----	----	----	----	----	3	----	2	1	9	3	----	----	3
Cement,	1	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	1	----	1	----	2	1	----	----	1
Glass—plate,	----	----	----	----	----	1	----	----	----	----	----	----	1	----	----	----	----	----	1	----	1	----	6	1	----	----	1
Mantels and tile,	----	1	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Total.	1	1	----	1	----	2	----	----	----	1	1	3	2	----	----	----	----	----	6	----	4	2	17	6	----	----	6

TABLE OF FATAL ACCIDENTS REPORTED IN NOVEMBER, 1918—Continued.

Industry.	Cause.										Nature of Injury.							Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Food and Kindred Products.																										
Confectionery,	1											1							1		1			1			1
Ice cream,						1						1							1		1		1	1			1
Total,	1					1						2							2		2		1	2			2
Leather and Rubber Goods.																										
Leather, tanned, curried and finished,										2								2	2		2		2	2			2
Total,										2								2	2		2		2	2			2
Liquors and Beverages.																										
Liquors—malt,					1							1							1		1			1			1
Total,					1							1							1		1			1			1
Lumber and Its Remanufacture.																										
Lumber and timber products,				1									1						1		1			1			1
Total,				1									1						1		1			1			1

Paper and Printing Industries.																													
Printing and Publishing,				1		1						1	1						2		2			2			2	
Total,				1		1						1	1						2		2			2			2	
Textiles.																													
Waste,				1									1						1			1		1			1	
Total,				1									1						1			1		1			1	
Laundries,				1								1							1			1		1			1	
Total,				1								1							1			1		1			1	
Metals and Metal Products.																													
Bars—iron and steel,	1					2		1				2		2					4		3	1	1	4			4	
Billets, blooms and slabs,	6	2	3	2		5				26	2	5	2	8		1		26	44		28	16	61	44			44	
Bolts, nuts and rivets,					1							1							1		1		12	1			1	
Castings—iron and steel,	2				1							1		2					3		3		1	3			3	
Engines—railroad,	1			2								2				1			3		1	2	4	3			3	
Fire escapes,	1											1							1		1		2	1			1	
Fire arms and ammunition,		1					1			1	1								2		1	1	1	2			2	
Instruments—professional and scientific,									1									1	1			1		1			1	
Machinery and parts,	1																1		1		1			1			1	
Scrap—iron and steel,	1										1	1							1		1		1	1			1	
Shapes—structural,					1	1						1	1						2		2			2			2	
Shapes—other iron and steel,			1											1					1		1			1			1	
Total,	13	3	4	4	3	8		2		27	3	15	3	13		2	1	27	64		43	21	83	64			64	
Mines and Quarries.																													
Sand and gravel,			1							1		2							2		2		2		2		2	
Stone,						1							1						1			1		1			1	
Coal—anthracite,	3	4	18	1		8				3	2	23	3	7				2	37		28	9	80	37			37	
Coal—bituminous,	1	2	15	1	1	14						10	8	13		2		1	34		22	12	49	34			34	
Total,	4	6	34	2	1	23				4	2	35	12	20		2		3	74		52	22	131	74			74	
Public Service.																													
Repair shops,				1								1							1		1		5			1	1	
Canal and navigation companies,				2								1	1						2		2		5			2	2	
Electric light, heat and power companies,	1	3									2		1					1	4		1	3				4	4	
Steam railroads,	2		1	1		43					4	11	27	5					46	1	42	5	21			47	47	
Electric railway companies,						2						1	1						2		2		3			2	2	
Telephone companies,				1								1							1		1					1	1	
Toll bridge companies,						1							1						1		1					1	1	
Unclassified,		1									1									1		1				1	1	
Total,	3	4	1	5		46					7	15	31	5				1	57	2	50	9	34			59	59	

TABLE OF FATAL ACCIDENTS REPORTED IN NOVEMBER, 1918—Continued.

Industry.	Cause.										Nature of Injury.									Sex.		Social Condition.		Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains, and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.	Number of dependents.	Industrial.	Mines and quarries.	Public service.	Total.
Miscellaneous.																											
Asbestos products,	----	----	----	----	----	1	----	----	----	----	----	----	1	----	----	----	----	----	1	----	1	----	----	1	----	----	1
Ship and boat building,	----	1	2	4	----	----	----	----	----	2	----	1	1	4	----	----	----	3	9	----	5	4	7	9	----	----	9
Unclassified,	2	----	----	----	----	----	----	----	----	----	1	1	----	----	----	----	----	----	1	1	2	----	2	2	----	----	2
Total,	2	1	2	4	----	1	----	----	----	2	1	2	2	4	----	----	----	3	11	1	8	4	9	12	----	----	12
Hotels and restaurants,	----	----	----	----	2	----	----	----	----	----	----	----	----	----	1	1	----	----	2	----	1	1	----	2	----	----	2
Total,	----	----	----	----	2	----	----	----	----	----	----	----	----	----	1	1	----	----	2	----	1	1	----	2	----	----	2
Mercantile establisbments,	----	----	----	1	----	2	----	----	----	1	----	1	----	3	----	----	----	----	4	----	3	1	8	4	----	----	4
Total,	----	----	----	1	----	2	----	----	----	1	----	1	----	3	----	----	----	----	4	----	3	1	8	4	----	----	4
Jobbers and wholesalers,	----	----	----	1	----	----	----	----	----	1	----	2	----	----	----	----	----	----	2	----	1	1	----	2	----	----	2
Total,	----	----	----	1	----	----	----	----	----	1	----	2	----	----	----	----	----	----	2	----	1	1	----	2	----	----	2

Municipalities,	1	----	2	----	----	2	----	----	----	----	----	2	----	3	----	----	----	----	5	----	3	2	1	----	----	5	5
Total,	1	----	2	----	----	2	----	----	----	----	----	2	----	3	----	----	----	----	5	----	3	2	1	----	----	5	5
Grand total,	29	19	45	29	7	94	----	2	----	39	14	86	62	57	1	5	2	37	260	4	188	76	302	126	74	64	264

Fatal Accidents by Counties.

Allegheny,	59
Armstrong,	2
Beaver,	6
Bedford,	3
Berks,	3
Bradford,	3
Bucks,	4
Cambria,	12
Cameron,	1
Carbon,	2
Centre,	4
Chester,	1

Fatal Accidents by Counties.

Clearfield,	1
Clinton,	1
Columbia,	1
Crawford,	1
Cumberland,	2
Dauphin,	4
Delaware,	10
Erie,	1
Fayette,	7
Franklin,	1
Huntingdon,	1
Indiana,	2

Fatal Accidents by Counties.

Jefferson,	2
Lackawanna,	13
Lancaster,	1
Lawrence,	1
Lebanon,	6
Lehigh,	2
Luzerne,	16
Lycoming,	3
Mercer,	3
Mifflin,	2
Montgomery,	6
Northampton,	2

Fatal Accidents by Counties.

Northumberland,	2
Philadelphia,	36
Pike,	1
Potter,	1
Schuylkill,	12
Somerset,	6
Susquehanna,	1
Venango,	1
Washington,	7
Westmoreland,	8
Total,	264

Industry.	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	Total.
Building and Contracting:																											
Building construction,	----	----	1	1	----	3	----	----	----	----	----	2	2	1	----	----	----	----	5	----	3	2	9	5	----	----	5
Painting and decorating,	----	1	----	2	----	----	----	----	----	----	----	2	----	----	----	----	----	1	3	----	1	2	----	3	----	----	3
Unclassified,	----	----	1	----	1	1	----	----	----	1	----	1	1	1	----	----	----	1	4	----	4	----	7	4	----	----	4
Total,	----	1	2	3	1	4	----	----	----	1	----	5	3	2	----	----	----	2	12	----	8	4	16	12	----	----	12
Chemicals and Allied Products:																											
Chemicals,	----	1	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	2	2	----	1	1	----	2	----	----	2
Dyestuffs and extracts,	----	----	----	----	----	----	----	----	----	1	1	----	----	----	----	----	----	----	1	----	----	1	----	1	----	----	1
Oils, crude,	1	----	----	1	----	----	----	----	----	----	----	2	----	----	----	----	----	----	2	----	2	----	5	2	----	----	2
Paints and varnishes,	----	----	----	1	----	----	----	----	----	----	----	----	----	1	----	----	----	----	1	----	1	----	5	1	----	----	1
Powder and other explosives,	1	----	----	----	----	----	----	----	----	3	----	1	----	----	----	----	----	3	4	----	2	2	1	4	----	----	4
Total,	2	1	----	2	----	----	----	----	----	5	1	3	----	1	----	----	----	5	10	----	6	4	11	10	----	----	10
Clay, Glass and Stone Products:																											
Brick,	1	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	1	----	1	----	3	1	----	----	1
Glass, plate,	1	----	----	----	----	1	----	----	----	----	----	1	----	1	----	----	----	----	2	----	2	----	1	2	----	----	2
Total,	2	----	----	----	----	1	----	----	----	----	----	1	1	1	----	----	----	----	3	----	3	----	4	3	----	----	3

Food and Kindred Products:																											
Canned and preserved goods,		1								1								1		1		3	1			1	
Slaughtering and meat packing,	1												1					1			1		1			1	
Total,	1	1								1			1					2		1	1	3	2			2	
Leather and Rubber Goods:																											
Leather, tanned, curried and finished,									1						1			1		1		4	1			1	
Total,									1						1			1		1		4	1			1	
Liquor and Beverages:																											
Liquors, malt,				2		1							1				2	3		2	1		3			3	
Total,				2		1							1				2	3		2	1		3			3	
Textiles:																											
Textiles, unclassified,				1								1						1		1			1			1	
Total,				1								1						1		1			1			1	
Metals and Metal Products:																											
Axes and edged tools,	1										1							1		1			1			1	
Bars, iron and steel,	1										1							1		1		3	1			1	
Billets, blooms and slabs,	8	6				9			2	5	11	3	4				2	25		19	6	34	25			25	
Boilers, tanks and stacks,									1								1	1			1		1			1	
Cars and car wheels,				1													1	1		1		1	1			1	
Castings, iron and steel,	1		1										2					2		1	1	1	2			2	
Engines, railroad,	1										1							1			1		1			1	
Firearms and ammunition,	1		1	2		1					1	2	1	1				5		3	2	6	5			5	
Machinery and parts,	1										1							1			1		1			1	
Nails and spikes,						1						1						1		1		3	1			1	
Pipes and tubing,			1										1					1		1			1			1	
Pumps and valves,			1								1							1			1		1			1	
Shapes, structural,	1								1		1						1	2		2		7	2			2	
Shapes, other than iron and steel,	1											1						1		1			1			1	
Sheets,	1										1							1		1			1			1	
Tin and terne plate,				1									1					1		1			1			1	
Wire products,									1			1						1			1		1			1	
Total,	17	6	4	4		11			5	5	19	8	9	1			5	47		33	14	55	47			47	
Mines and Quarries:																											
Ore, iron,						1						1						1		1		2		1		1	
Coal, anthracite,	3	7	20	2		11			3	5	23	5	10				3	46		30	16	76		46		46	
Coal, bituminous,	1		24	1		11		1	1		16	6	16				1	39		31	8	62		39		39	
Total,	4	7	44	3		23		1	4	5	39	12	26				4	86		62	24	134		86		86	

TABLE OF FATAL ACCIDENTS REPORTED IN DECEMBER, 1918—Continued.

Industry.	Cause.										Nature of Injury.								Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Public Service:																											
Repair shops,		1				2				1		1	1	1				1	4		2	2				4	4
Canal and navigation companies,										2								2	2		2					2	2
Electric light, heat and power companies,		1																1	1		1					1	1
Gas companies (natural),										1	1								1		1					1	1
Steam railroads,	1		1			41				2	1	11	29	2			1	1	45		35	10	46			45	45
Electric railway companies,		2				2					1		1	1				1	4		2	2	7			4	4
Water companies,		1																1	1		1		2			1	1
Total,	1	5	1			45				6	3	12	31	4			1	7	58		44	14	55			58	58
Miscellaneous:																											
Ship and boat building,			1	2										3					3		1	2	4	3			3
Unclassified,	3			2		2					1	2		3				1	7		4	3	8	7			7
Total,	3		1	4		2					1	2		6				1	10		5	5	12	10			10
Hotels and restaurants,				1								1							1			1		1			1
Total,				1								1							1			1		1			1

Mercantile establishments,		2		1	2	3					2	1	3			1		1	7	1	5	3	2	8			8
Total,		2		1	2	3					2	1	3			1		1	7	1	5	3	2	8			8
Jobbers and wholesalers,				1		1						1		1					2		2		4	2			2
Total,				1		1						1		1					2		2		4	2			2
Municipalities,			1		1					1		1	1				1		3		2	1	3			3	3
Total,			1		1					1		1	1				1		3		2	1	3			3	3
Grand total,	30	23	53	22	4	91		1		23	18	85	60	52	1	2	2	27	246	1	175	72	303	100	86	61	247

Fatal Accidents by Counties.	Total.	Fatal Accidents by Counties.	Total.	Fatal Accidents by Counties.	Total.	Fatal Accidents by Counties.	Total.
Allegheny,	39	Clearfield,	3	Lackawanna,	14	Philadelphia,	26
Armstrong,	5	Clinton,	1	Lancaster,	1	Schuylkill,	11
Beaver,	7	Dauphin,	3	Lawrence,	1	Somerset,	1
Berks,	2	Delaware,	9	Lehigh,	1	Venango,	1
Blair,	1	Elk,	3	Luzerne,	27	Warren,	2
Bucks,	4	Erie,	2	McKean,	1	Washington,	13
Butler,	2	Fayette,	8	Mercer,	1	Wayne,	1
Cambria,	8	Greene,	3	Mifflin,	1	Westmoreland,	12
Cameron,	1	Indiana,	2	Montgomery,	2	York,	3
Carbon,	3	Jefferson,	1	Northampton,	8		
Clarion,	1	Juniata,	1	Northumberland,	11	Total,	247

CORRECTION

The column heading

"Total Accidents by Cause"
should be
"Fatal Accidents by Cause"

Analyzing causes of fatalities in tables on pages: 94, 96, 98, 106, 108, 110, 118, 120, 122, 166, 178, 180, 182, 190, 192, 194, 202, 204, 206, 214, 216, 218, 226, 228, 230.

Group No. 3. COMPENSATION CASES.

The twelve tables in this group represent compensable cases, that is, cases where the disability extended over more than fourteen days. These tables include cases which have been closed during the year 1918 by the filing of a final receipt; showing the amount of compensation that has been paid up to the time the injured was able to return to work, or that have been terminated by the filing of the necessary petitions, which have been passed upon by a Referee or the Workmen's Compensation Board. The tables also include fatal and permanent disability cases where the total amount to be paid is definitely stated in the agreement for the payment of compensation.

The tabulations show the class of industry, cause of injury, nature of injury, loss of parts, social condition, amount of compensation awarded and paid, degree of accident and sex of injured, as well as the number of dependents in all compensable cases.

TABLE COVERING COMPENSABLE ACCIDENTS FOR JANUARY, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	81	20	46	35	45	15	6	62	40	37	6
Boilers and steam pipes,											
Boiler explosions,											
Prime movers—Stationary engines and motors,		1									
Sudden starting or stopping,		1									
Power and transmission apparatus,	7	3	10	3	9	1	2	1	2	6	1
Belts and pulleys,		2	4	2	6		1		2	3	1
Chains and sprockets,	5				1						
Cogs, gears, etc.,		1	1	1				1			
Fly wheels,											
Operating or repairing apparatus (Electrical),											
Operating or repairing apparatus (Not electrical),						1				2	
Ropes, cables and drums,	2		4		2		1				
Set screws, keys and bolts,			1								
Shafts and couplings,										1	
Unguarded or uncovered switches,											
All others,											
Elevators,	12	1	7	3	5	2		2	3	3	
Cable breaking,	2		2					1			
Cable unwinding,				1	2				1		
Cable—caught by,	1	1		1		1		1	2	2	
Car—caught by,	1				1	1				1	
Car—struck by,	1				1						

Counterweight—struck by,											
Defective equipment,				1							
Entering or leaving car,	1		3		1						
Fall of car,	2		1								
Fall of person,	1										
Falling objects,			1								
All others,	3										
Cranes, hoisting apparatus, etc.,	25	2	2		1	1		1		1	
Cable catching person,	2		1								
Car striking person,	4										
Cleaning, oiling or repairing,											
Falling objects (other than load),	2										
Falls from,	2	1	1								
Load falling,	4									1	
Run over by,	1					1					
Struck by load or tackle (not falling),	9	1			1			1			
All others,											
Working machines,	37	13	27	29	30	11	4	58	35	27	5
Adjusting machine or work,	5	2	2	4	4	2		3	2	1	
Breaking of machine or work,	5	1	3					2			
Cleaning,	1	1	1	3	5			1		5	
Emery wheels (bursting),								1			
Flying objects,	2	1	5		1			2		2	
Oiling,	1	3	2	1				1			
Operating or feeding,	9	3	8	11	14	8	2	40	31	15	5
Repairing,	3		4	2	1					1	
Saws,	2			1				7			
Starting or stopping,	8	2	2	3	5	1	2	1	2	2	
All others,	1			1						1	
Explosives, Electricity, Fires. Hot or Corrosive Substances.											
Total,	15	30	14		4	2			4	3	
Corrosive, substances,											
Electricity,											
Cutting or welding,											
Explosives,	7	15	6		1						
Acetylene,											
Carbon dioxide,	1	3	1		1						
Compressed air,											

TABLE COVERING COMPENSABLE ACCIDENTS FOR JANUARY, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Dust,											
Dynamite, powder or nitro-glycerine,	4	10	3								
Gas,	2	1	2								
Gasoline,											
Manufacturing or storing,											
Transporting or handling,											
All others,		1									
Hot substances or flames,	8	15	8		3	2			4	3	
Asphalt, pitch or tar,		1									
Cutting or welding (not electrical),											
Flames,	1	3	3		1					1	
Hot water,	1	2	2			2			2	1	
Molten metal—explosion of,	1										
Molten metal or slag (all others),	2	2									
Other hot substances (scalds),	3	7	1		2				2	1	
All others,			2								
Conflagration,											
Falling Objects.											
Total,	68	10	35	1	4	3	2	10	4	4	
Rock and earth,	5	1	10							1	
Collapse of buildings or walls,	2	1									
Collapse of scaffolds or stagings,	20	1	2								
Collapse of piled up material,	4	1	1		1			1			
Fall of roof (mines),	1	1	6			1		1			
Objects dropped by other persons,	6	2	2		1	1	1				

Objects falling from trucks or vehicles (not loading or unloading),	2		3			1			1		
Objects falling from buildings, trestles or scaffolds,	27	3	11	1	1		1	6	3	2	
All others,	1				1		1	2		1	
Fall of Persons.											
Total,	121	26	24	9	30	11	20	23	11	25	4
From ladder,	12	3	1	2	4	2	2	2	1	5	2
From scaffolds or platforms,	23	5	5	2	2	1	1	2	3	3	
From vehicles,	20	5	2		9		6	3	2	1	2
From structures in course of erection,	22										
From structures (all others),	14		1		1	1	3	2			
From other elevations,	1		1		2			2	1	1	
Into excavations,	2	2	2	1							
Into other openings,	6	2	1		1	2	1	2	1		
On level,	19	9	11	2	10	5	5	10	2	10	
Stairways,	2			2	1		2		1	4	
All others,										1	
Handling of Tools or Objects.											
Total,	149	43	68	3	39	17	19	45	16	14	4
Carrying or lifting objects (not loading or unloading),	60	18	16		10	6	7	13	6	6	2
Chipping or grinding,	2		3			1					
Handling of sharp objects,	12	2	16		7	1	3	2	2	1	1
Loading or unloading,	16	5	12		8	2	3	4	4	2	
Tools in hands of injured persons,	48	17	20	2	13	6	5	26	4	5	1
Tools in hands of fellow workmen,	9	1	1			1					
All others,	2			1	1		1				
Power Vehicles.											
Total,	41	13	23	1	13	4	9	7	5	2	
Collisions,					2		1		2		
Coupling or uncoupling cars,	3										
Defective equipment,	2										
Derailment—replacing cars,			3			1					
Fell from, over or into,	3	3					1				
Improperly loaded ladles or cars,											
Loading or unloading material,	15	3	6		6	2	4	4	1	1	
Not on track,	6	2	3		2		1		2		
Struck by car or engine,	11	4	10	1	3	1	2	2			
Struck by overhead or side obstruction,			1							1	
Sudden starting or stopping,											
All others,	1	1						1			
Stepping on Sharp Objects.											
Total,	15					2		1		2	

TABLE COVERING COMPENSABLE ACCIDENTS FOR JANUARY, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Nails.	14					1		1		2	
All others,	1					1					
Running Into or Striking Against Objects. Total,	10	4	16	2	9	1	1	10	2	10	1
Poisonous Substances. Total,	1			1					1	1	
Miscellaneous. Total,	30	12	14	4	12	1	3	11	3	6	
Acids and liquids,	1	2	2		1					1	
Animals,	8	3	1		6		1	4			
Asphyxiation or suffocation,	1	1	1								
Doors, windows or gates (Exclusive of elevator gates),	1				3	1				1	
Drowning,							2				
Flying objects (Not from machines, tools or explosives),	11	6	6	2	2			6			
Frost bites,	1										
Heat prostrations,											
Intentional violence,	1		3	1						1	
Lightning,											
All others,	6		1	1				1	3	3	
Nature of Injury. Total,	531	158	240	56	156	56	60	169	86	104	15
Burns and scalds,	14	23	15	1	8	4	1		4	6	3
Crushes and bruises,	183	47	93	16	56	20	16	42	30	27	6

Cuts and lacerations,	103	30	66	19	38	12	10	74	20	19	1
Fractures, sprains and dislocations,	155	42	47	6	34	10	25	32	19	36	3
Hernia,	9	3	3	1		1	3	1		2	
Blood poisoning,	11	2	3	4	9	4	1	5	5	4	1
Punctures,	15	1	6	3	1	1	1	1	1	2	
Unclassified,	41	10	7	6	10	4	3	14	7	8	1
Loss of Parts.											
Total,	13	2	6	2	5		1	12		3	
Eyes,	5	1	3	1			1	3			
Arms,	1	1	2								
Hands,	1		1					1		2	
Fingers,	2			1	4			8		1	
Legs,	1				1						
Feet,	3										
Toes,											
Social Condition.											
Married,	310	88	143	19	92	29	44	87	36	52	9
Single,	140	55	83	32	49	22	14	56	45	36	4
Not given,	81	15	14	5	15	5	2	26	5	16	2
Compensation.											
Amount paid—Disability cases,	34,158	9,555	12,599	2,458	8,582	1,929	3,370	8,007	2,631	3,204	380
Fatal cases—Amount paid and awarded,	37,555	32,131	2,108		200		6,442		3,680	700	
Estimated medical cost,											
Total,											
Degree.											
Fatal,	22	11	3		2		2		2	1	
Serious,	509	147	237	56	154	56	58	169	84	103	15
Sex.											
Male,	531	158	239	40	149	53	60	164	75	80	8
Female,			1	16	7	3		5	11	24	7
Number of dependents,	384	123	261	19	140	39	56	110	44	43	3
Total number of accidents,	531	158	240	56	156	56	60	169	86	104	15

TABLE COVERING COMPENSABLE ACCIDENTS FOR JANUARY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	661	140	47	2	53	7	19	9	7	1,338	33
Boilers and steam pipes,	2		1							3	
Boiler explosions,	2		1							3	
Prime movers—Stationary engines and motors,	1		2							4	
Sudden starting or stopping,	1		2							4	
Power and transmission apparatus,	97	56	4		5				1	208	5
Belts and pulleys,	22	5			2				1	51	3
Chains and sprockets,	37	15			1					59	1
Cogs, gears, etc.,	22	8	2		2					38	
Fly wheels,											
Operating or repairing apparatus (Electrical),	3	1								4	
Operating or repairing apparatus (Not electrical),	2	1	2							8	
Ropes, cables and drums,	6	21								36	
Set screws, keys and bolts,	1	1								3	
Shafts and couplings,		1								2	1
Unguarded or uncovered switches,											
All others,	4	3								7	
Elevators,	39	14	4	1	7	4	5	3	1	116	4
Cable breaking,	6	1								12	
Cable unwinding,							1	1		6	
Cable—caught by,	16	2	2		3	1			1	34	
Car—caught by,	3	3	1	1	1	2	2	1		18	4
Car—struck by,	1	2				1				6	

Counterweight—struck by,	2									2	
Defective equipment,	1	1			1					4	
Entering or leaving car,	2		1		1		2			11	
Fall of car,	4	4			1			1		13	
Fall of person,	1	1								3	
Falling objects,	2									3	
All others,	1									4	
Cranes, hoisting apparatus, etc.,	161	10	10		5					219	17
Cable catching person,	11	2	1							17	
Car striking person,	16	2			2					24	2
Cleaning, oiling or repairing,											
Falling objects (other than load),	11	1	2							17	1
Falls from,	9		1							14	1
Load falling,	44	1			1					51	7
Run over by,	2	1			1					6	
Struck by load or tackle (not falling),	64	2	6		1					85	6
All others,	4	1								5	
Working machines,	361	60	26	1	36	3	14	6	5	788	7
Adjusting machine or work,	70	13	3		4	1	1			117	1
Breaking of machine or work,	18	4	2		1			1	1	38	2
Cleaning,	15	2			1					35	1
Emery wheels (bursting),	2									3	
Flying objects,	60	23	6		4		1		2	109	2
Oiling,	5	3							1	17	
Operating or feeding,	147	7	7	1	16	2	3	1		333	
Repairing,	3	2	2		1					19	
Saws,	4				3					17	
Starting or stopping,	34	5	6		6		9	4	1	93	
All others,	3	1	1							7	1
Explosives, Electricity, Fires, Hot and Corrosive Substances.											
Total,	272	144	27		11	6	1	3		536	48
Corrosive, substances,	1									1	
Electricity,	16	7	9			1				33	6
Cutting or welding,											
Flying objects,	23	113	3		2	1	1	1		173	31
Explosives,											
Acetylene,	3									3	
Carbon dioxide,	1	4								5	
Compressed air,	2		1							9	1

TABLE COVERING COMPENSABLE ACCIDENTS FOR JANUARY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Dust,	8									8	2
Dynamite, powder or nitro-glycerine,	6	60								83	23
Gas,	2	48	1		1	1				58	5
Gasoline,					1		1	1		3	
Manufacturing or storing,											
Transporting or handling,		1								1	
All others,	1		1							3	
Hot substances or flames,	232	24	15		9	4		2		329	11
Asphalt, pitch or tar,	4									5	
Cutting or welding (not electrical),	4		1							5	
Flames,	23	7	5			3		1		48	3
Hot water,	13	7	3		3					36	2
Molten metal—explosion of,	35	1			2					39	2
Molten metal or slag (all others),	116		1		2					123	
Other hot substances (scalds),	33	9	4		2	1		1		66	4
All others,	4		1							7	
Conflagration,											
Falling Objects.											
Total,	284	738	34		24	2	6	1	7	1,237	89
Rock and earth,	6	222	3					1	3	252	8
Collapse of buildings or walls,	1		2							6	1
Collapse of scaffolds or stagings,	10	2	1		2					38	2
Collapse of piled up material,	32	5	2		3				1	51	
Fall of roof (mines),	9	454			2					475	65
Objects dropped by other persons,	28	6	3		2		1			52	2

Objects falling from trucks or vehicles (not loading or unloading),	38	8	9		7		1			71	3
Objects falling from buildings, trestles or scaffolds,	142	33	11		7		4		2	255	8
All others,	18	8	3		1	1				37	
Fall of Persons.											
Total,	200	143	66		46	17	48	17	21	859	22
From ladder,	22	9	9		4	2	6	1	4	93	2
From scaffolds or platforms,	29	18	8		8	1	3	1	1	116	3
From vehicles,	6	9	9		8	1	16	6	1	106	3
From structures in course of erection,	7	3			1		1			34	5
From structures (all others),	13	7	3		1		3			49	2
From other elevations,	8	3	5		2	1	1		1	29	2
Into excavations,	3		1		2				1	14	
Into other openings,	21	8	7				1	2	2	57	2
On level,	82	79	20		17	8	14	3	8	314	2
Stairways,	6	5	2			4	3	1	2	35	
All others,	3	2	2		3				1	12	1
Handling of Tools or Objects.											
Total,	679	452	134	4	61	10	43	13	11	1,815	3
Carrying or lifting objects (not loading or unloading),	245	189	42		18	2	20	8	6	674	1
Chipping or grinding,	42	21	4		1					74	
Handling of sharp objects,	32	9	1		4	4	2			99	
Loading or unloading,	51	34	21		9		8	3	2	184	
Tools in hands of injured persons,	253	181	56	3	26	2	12	1	2	683	
Tools in hands of fellow workmen,	42	11	9	1	3		1		1	80	2
All others,	5	7	1			2		1		21	
Power Vehicles.											
Total,	137	577	77	3	22	1	24	12	5	976	48
Collisions,	2	15	9		3		2	2	1	39	3
Coupling or uncoupling cars,	16	6							1	26	1
Defective equipment,										2	
Derailment—replacing cars,	5	73	2							84	1
Fell from, over or into,	16	30	21	1			2	1	1	79	6
Improperly loaded ladles or cars,	1		1							2	
Loading or unloading material,	48	85	12		4		4	4		199	2
Not on track,	1	82	8	1	6	1	7	1	2	125	4
Struck by car or engine,	39	240	17	1	7		8			346	27
Struck by overhead or side obstruction,	5	42	6		1			1		57	3
Sudden starting or stopping,	1		1							2	
All others,	3	4			1		1	3		15	1

TABLE COVERING COMPENSABLE ACCIDENTS FOR JANUARY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Stepping on Sharp Objects.											
Total,	12	11	3				3	1		50	
Nails,	5	9	2				2	1		37	
All others,	7	2	1				1			13	
Running Into or Striking Against Objects.											
Total,	66	48	7		9	3	4	1	2	206	1
Poisonous Substances.											
Total,	2	4	1		5		1			17	
Miscellaneous.											
Total,	85	120	22		9	2	9	3	9	355	15
Acids and liquids,	5	7	1							20	
Animals,	5	60	2		4	2	5	3	3	107	2
Asphyxiation or suffocation,	2	1								6	4
Doors, windows or gates (Exclusive of elevator gates),	19	21	9		1		2			58	
Drowning,										2	1
Flying objects (Not from machines, tools or explosives),	36	22	6		3				2	102	1
Frost bites,	1									2	
Heat prostrations,											
Intentional violence,	2		1		1				2	12	1
Lightning,											
All others,	15	9	3				2		2	46	4
Nature of Injury.											
Total,	2,389	2,377	418	9	240	48	158	57	62		257
Burns and scalds,	316	94	31		9	6	1	3		539	

Crushes and bruises,	812	1,002	171	6	80	5	41	15	18	2,686
Cuts and lacerations,	583	602	74	1	46	12	25	5	10	1,750
Fractures, sprains and dislocations,	502	539	120	2	67	12	64	25	26	1,766
Hernia,	27	21	6		3	1	3		1	85
Blood poisoning,	59	33	5		12	5	9	1	3	176
Punctures,	27	20			2		5		1	87
Unclassified,	63	66	11		21	7	10	8	3	300
Loss of Parts.										
Total,	72	49	9		5			1		
Eyes,	27	17	4		1			1		64
Arms,	4	3	2							13
Hands,	8	7	1							21
Fingers,	27	14			4					61
Legs,		5	2							9
Feet,	4	2								9
Toes,	2	1								3
Social Condition.										
Total,										
Married,	1,386	1,426	270	4	130	26	75	29	47	4,302
Single,	803	859	125	5	72	17	55	21	10	2,503
Not given,	200	92	23		38	5	28	7	5	584
Compensation.										
Amount paid—Disability cases,	99,973	137,072	24,661	119	10,387	1,732	5,241	3,430	1,875	371,363
Fatal cases—Amount paid and awarded,	39,775	343,474	42,249	3,794	10,266	2,500	3,594	6,881	4,602	589,951
Estimated medical cost,										
Total,										
Degree.										
Fatal,	54	128	17	1	4	1	2	3	4	257
Serious,	2,335	2,249	401	8	236	47	156	54	58	7,132
Sex.										
Male,	2,367	2,377	416	9	230	41	146	57	61	7,261
Female,	22		2		10	7	12		1	128
Number of dependents,	2,192	1,610	386	3	169	12	77	23	40	5,734
Total number of accidents,	2,389	2,377	418	9	240	48	158	57	62	7,389

TABLE COVERING COMPENSABLE ACCIDENTS FOR FEBRUARY, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	63	28	32	17	31	22	4	60	45	44	2
Boilers and steam pipes,	1			1							
Boiler explosions,	1			1							
Prime movers—Stationary engines and motors,							1				
Sudden starting or stopping,							1				
Power and transmission apparatus,	10	3	6	3	4	3		4	5	4	
Belts and pulleys,		1	1	1		2				1	
Chains and sprockets,	1				1	1				1	
Cogs, gears, etc.,	5		3	1	3			2	3		
Fly wheels,	2										
Operating or repairing apparatus (Electrical),											
Operating or repairing apparatus (Not electrical),		1						1	1		
Ropes, cables and drums,	1		1							1	
Set screws, keys and bolts,											
Shafts and couplings,	1	1	1	1				1		1	
Unguarded or uncovered switches,											
All others,									1		
Elevators,	10	8	1	3	5	1		4	6	2	
Cable breaking,	3					1			1		
Cable unwinding,	1	2			2						
Cable—caught by,	1	1			1			3	2		
Car—caught by,		2	1	2					1		
Car—struck by,	1										

Counterweight—struck by,				1				1			1	
Defective equipment,												
Entering or leaving car,											1	
Fall of car,	3	2										
Fall of person,	1	1			2							
Falling objects,												
All others,												
Cranes, hoisting apparatus, etc.,	19	5	4		2			1		1		
Cable catching person,	4											
Car striking person,	1		1									
Cleaning, oiling or repairing,	1											
Falling objects (other than load),			1								1	
Falls from,	1											
Load falling,	2	3			2							
Run over by,	1											
Struck by load or tackle (not falling),	8	2	2					1				
All others,	1											
Working machines,	23	12	21	10	20	18	3	51	34	37	2	
Adjusting machine or work,	1	2	5	2	2	1		4	5	6		
Breaking of machine or work,	2	1	1			2		1	3	1		
Cleaning,	1		2	3	4			3	2	11		
Emery wheels (bursting),												
Flying objects,	3	1	1					3	1	1		
Oiling,			2					1				
Operating or feeding,	9	4	5	3	7	14	1	20	21	14	1	
Repairing,	1		2				1			2		
Saws,	1		1		2			16				
Starting or stopping,	5	4	2	1	5	1	1	3	2	2	1	
All others,				1								
Explosives, Electricity, Fires, Hot and Corrosive Substances.												
Total,	13	29	9	2	3	2	2		4	2	1	
Corrosive, substances,												
Electricity,	1	1	1	1								
Cutting or welding,												
Explosives,	5	16	2		1	1						
Acetylene,												
Carbon dioxide,												
Compressed air,	2											

TABLE COVERING COMPENSABLE ACCIDENTS FOR FEBRUARY, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Dust,			2		1						
Dynamite, powder or nitro-glycerine,	1	6									
Gas,		4									
Gasoline,	2	1				1					
Manufacturing or storing,											
Transporting or handling,											
All others,		5									
Hot substances or flames,	7	12	6	1	2	1	2		4	2	1
Asphalt, pitch or tar,	1										
Cutting or welding (not electrical),											
Flames,	1	2									
Hot water,	3	2	2	1	1	1	1		2	2	
Molten metal—explosion of,		1									
Molten metal or slag (all others),	1										
Other hot substances (scalds),	1	7	3		1		1		2		1
All others,											
Conflagration,			1								
Falling Objects.											
Total,	49	6	24	2	4	2	2	13	4	6	
Rock and earth,	8		7			1					
Collapse of buildings or walls,											
Collapse of scaffolds or stagings,	11		2						1		
Collapse of piled up material,	3		1					2	1		
Fall of roof (mines),	1		1								
Objects dropped by other persons,	2	2	2					2	1		

Objects falling from trucks or vehicles (not loading or unloading),	2		2					1		1	
Objects falling from buildings, trestles or scaffolds,	21	4	8	2	3	1	2	7	1	5	
All others,			1		1			1			
Fall of Persons.											
Total,	108	17	30	11	24	6	15	13	9	14	
From ladder,	16	3	2	1	3		2	1	2	3	
From scaffolds or platforms,	25	1	4	1	1	2	2	2	2	3	
From vehicles,	11	3	1	2	8		2	3	2	1	
From structures in course of erection,	6		1								
From structures (all others),	7	1		1				1			
From other elevations,	3		2		1			1			
Into excavations,	2										
Into other openings,	5	1							1	1	
On level,	32	8	17	2	10	4	7	5	2	5	
Stairways,	1		3	4	1		2			1	
All others,											
Handling of Tools or Objects.											
Total,	112	32	67	6	44	10	10	44	20	9	
Carrying or lifting objects (not loading or unloading),	48	6	23	3	17	4	3	16	9	2	
Chipping or grinding,	1	2	16					1			
Handling of sharp objects,	6	1		3	7	1	3	3	1	1	
Loading or unloading,	19	8	4		9	1	2	9	1	2	
Tools in hands of injured persons,	30	11	20		10	4	2	12	8	4	
Tools in hands of fellow workmen,	7	3	2		1			3	1		
All others,	1	1	2								
Power Vehicles.											
Total,	25	7	21		8	1	4	11	4	1	
Collisions,	1				2						
Coupling or uncoupling cars,					1						
Defective equipment,											
Derailment—replacing cars,			4					1			
Fell from, over or into,	2	1	2		1			1	1		
Improperly loaded ladles or cars,	1										
Loading or unloading material,	6	3	3				1	5		1	
Not on track,	4	1	3		2	1	2				
Struck by car or engine,	10	2	7		2		1	3	2		
Struck by overhead or side obstruction,	1		1					1	1		
Sudden starting or stopping,											
All others,			1								
Stepping on Sharp Objects.											
Total,	11	1		2	3	2			1		

TABLE COVERING COMPENSABLE ACCIDENTS FOR FEBRUARY, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Nails,	11	1		1	2	1					
All others,				1	1	1			1		
Running Into or Striking Against Objects.											
Total,	9	2	8	4	10	6	1	8	4	6	1
Poisonous Substances.											
Total,			1		1					1	
Miscellaneous.											
Total,	16	17	8	2	7	3	4	4		3	
Acids and liquids,	2	9	1					1			
Animals,	4		1		6			2		1	
Asphyxiation or suffocation,	1	1	1							1	
Doors, windows or gates (Exclusive of elevator gates),	1	2	2	1		2	2			1	
Drowning,											
Flying objects (Not from machines, tools or explosives),	2	3						1			
Frost bites,	1	1	1			1	1				
Heat prostrations,											
Intentional violence,											
Lightning,			1				1				
All others,	5	1	1	1	1						
Nature of Injury.											
Total,	406	139	200	46	135	54	42	153	91	86	4
Burns and scalds,	14	29	9	4	6	3	2		8	5	1

Crushes and bruises,	139	36	62	16	38	14	13	47	43	30	
Cuts and lacerations,	76	23	68	5	31	16	11	55	15	23	
Fractures, sprains and dislocations,	140	34	43	11	40	10	14	37	19	17	2
Hernia,	6		3	1	3				1		
Blood poisoning,	14	6	9	3	7	5	1	6	2	5	1
Punctures,	7	3	2	3	4	2		3		3	
Unclassified,	10	8	4	3	6	4	1	5	3	3	
Loss of Parts.											
Total,	10	1	8		2	1		13	5	1	
Eyes,	3	1	1					1	1		
Arms,	2		1						1		
Hands,	1				1			3		1	
Fingers,	3		5		1	1		9	3		
Legs,	1										
Feet,			1								
Toes,											
Social Condition.											
Total,											
Married,	254	89	125	24	71	31	31	76	41	42	1
Single,	108	37	65	18	45	20	8	56	41	37	3
Not given,	44	13	10	4	19	3	3	21	9	7	
Compensation.											
Amount paid—Disability cases,	28,000	5,900	10,022	954	6,594	1,218	1,185	9,855	5,572	4,340	175
Fatal cases—Amount paid and awarded,	36,885	34,390	11,787		600	1,548		1,129	2,276	4,885	
Estimated medical cost,											
Total,											
Degree.											
Fatal,	12	12	3		1	2		1	1	2	
Serious,	394	127	197	46	134	52	42	152	90	84	4
Sex.											
Male,	406	135	196	35	125	48	42	151	83	62	1
Female,		4	4	11	10	6		2	8	24	3
Number of dependents,	373	177	223	29	84	43	41	90	28	62	
Total number of accidents,	406	139	200	46	135	54	42	153	91	86	4

TABLE COVERING COMPENSABLE ACCIDENTS FOR FEBRUARY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	563	112	51	1	58	2	22	8	5	1,170	24
Boilers and steam pipes,	1	1	2		1					7	3
Boiler explosions,	1	1	2		1					7	3
Prime movers—Stationary engines and motors,										1	
Sudden starting or stopping,										1	
Power and transmission apparatus,	51	30	7		4		1	1	3	139	4
Belts and pulleys,	6	2						1	1	16	1
Chains and sprockets,	18	8	2				1		1	34	1
Cogs, gears, etc.,	15	7	1		2				1	43	
Fly wheels,										2	
Operating or repairing apparatus (Electrical),	4		1							5	
Operating or repairing apparatus (Not electrical),	6		2							11	
Ropes, cables and drums,		12			1					16	1
Set screws, keys and bolts,					1					1	
Shafts and couplings,			1							7	1
Unguarded or uncovered switches,	1	1								2	
All others,	1									2	
Elevators,	54	14	8		8	1	5	2		132	3
Cable breaking,	8				1		1	1		16	
Cable unwinding,	3		2		1		1			12	1
Cable—caught by,	17	3	1		3	1	1			34	
Car—caught by,	1				1		1			9	1
Car—struck by,	1	1			1					4	

Counterweight—struck by,	1	1								4	
Defective equipment,	2									3	
Entering or leaving car,	3				1					6	1
Fall of car,	11	8	5				1			31	
Fall of person,	1							1		6	
Falling objects,	4	1								5	
All others,	2									2	
Cranes, hoisting apparatus, etc.,	155	6	5		13		1			212	6
Cable catching person,	25									29	
Car striking person,	11	1			3		1			18	3
Cleaning, oiling or repairing,	1									2	
Falling objects (other than load),	13	1								15	
Falls from,	12		1		3					18	
Load falling,	36	2			1					46	2
Run over by,	1									2	
Struck by load or tackle (not falling),	54	2	4		5					78	1
All others,	2				1					4	
Working machines,	302	61	29	1	32	1	15	5	2	679	8
Adjusting machine or work,	51	3	3		5				1	91	
Breaking of machine or work,	21	1			4				1	38	
Cleaning,	7		1		1					35	
Emery wheels (bursting),	3									3	
Flying objects,	47	42	11		2					112	2
Oiling,	6	1	1							11	
Operating or feeding,	123	8	6	1	15	1	7	1		261	3
Repairing,	9	2	1							18	1
Saws,	5				1					26	1
Starting or stopping,	27	3	5		4		8	4		78	
All others,	3	1	1							6	1
Explosives, Electricity, Fires, Hot and Corrosive Substances.											
Total,	199	102	31		9	4	1	1	2	416	31
Corrosive, substances,											
Electricity,	10	8	9		2					33	5
Cutting or welding,											
Explosives,	15	75	3		5				2	125	19
Acetylene,					1					1	
Carbon dioxide,		1			1					2	
Compressed air,	1	1								4	

TABLE COVERING COMPENSABLE ACCIDENTS FOR FEBRUARY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Dust,	1		1							5	
Dynamite, powder or nitro-glycerine,		37	1		1					46	13
Gas,	9	33								46	6
Gasoline,	4	1	1		2					12	
Manufacturing or storing,											
Transporting or handling,											
All others,		2							2	9	
Hot substances or flames,	174	19	19		2	4	1	1		258	7
Asphalt, pitch or tar,										1	
Cutting or welding (not electrical),			1							1	
Flames,	15	5	5					1		29	1
Hot water,	19	7	4		2	3	1			51	2
Molten metal—explosion of,	20		1							22	2
Molten metal or slag (all others),	77		2							80	1
Other hot substances (scalds),	41	6	6			1				70	1
All others,	2	1								3	
Conflagration,										1	
Falling Objects.											
Total,	225	576	22		30		4		3	972	43
Rock and earth,	8	218	2							244	4
Collapse of buildings or walls,									3	4	
Collapse of scaffolds or stagings,	3	3			5					25	
Collapse of piled up material,	25	2	2		1		1			38	
Fall of roof (mines),	8	301								311	34
Objects dropped by other persons,	18	4	4		4					39	

Objects falling from trucks or vehicles (not loading or unloading),	26	12	3		1		1			49	
Objects falling from buildings, trestles or scaffolds,	128	29	11		19		2			243	4
All others,	9	7								19	1
Fall of Persons.											
Total,	189	118	72		63	9	31	13	25	767	12
From ladder,	18	8	5		8	1	1		1	75	3
From scaffolds or platforms,	20	13	6		9		2	2	1	96	1
From vehicles,	6	7	6		8		10	2	3	75	1
From structures in course of erection,	3	1	1		2				1	15	
From structures (all others),	6	4	5		2		3		1	31	2
From other elevations,	9	2	4		1				1	24	
Into excavations,	5								1	8	1
Into other openings,	14	8	5		6		1	2	1	45	3
On level,	96	73	33		25	3	12	6	9	349	
Stairways,	6	2	5		1	5	2	1	6	40	1
All others,	6		2		1					9	
Handling of Tools or Objects.											
Total,	594	338	118	3	60	12	28	11	4	1,522	6
Carrying or lifting objects (not loading or unloading),	268	141	47	2	25	4	12	5	1	636	3
Chipping or grinding,	17	6	3							46	
Handling of sharp objects,	24	11	3		4	2	6			76	
Loading or unloading,	49	52	15		10		5	5		191	1
Tools in hands of injured persons,	192	114	41	1	18	6	3	1	2	480	2
Tools in hands of fellow workmen,	38	14	9		3		2		1	84	
All others,	5									9	
Power Vehicles.											
Total,	144	438	101		32	2	19	5	4	827	59
Collisions,	4	9	10		2		2			30	2
Coupling or uncoupling cars,	17	58	8		2		1			87	4
Defective equipment,	1	2	1							4	
Derailment—replacing cars,	1	70	3		2					81	1
Fell from, over or into,	18	14	26		3	1				70	5
Improperly loaded ladles or cars,	2		1							4	1
Loading or unloading material,	43	46	13		3		2	2		128	3
Not on track,	10	4	9		9		8	1	4	58	2
Struck by car or engine,	39	171	28		10	1	6	2		284	38
Struck by overhead or side obstruction,	8	62	1		1					76	3
Sudden starting or stopping,	1									1	
All others,		2	1							4	
Stepping on Sharp Objects.											
Total,	10	7	3		3		2			45	

TABLE COVERING COMPENSABLE ACCIDENTS FOR FEBRUARY, 1918—Continued.

Cause	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Nails,	5	5	3		3		1			33	
All others,	5	2					1			12	
Running Into or Striking Against Objects.											
Total,	61	48	10		11	3	5	4	2	203	4
Poisonous Substances.											
Total,	5	1			2					11	1
Miscellaneous.											
Total,	87	92	23		15	2	13	3	3	302	15
Acids and liquids,	10	5	2				1			31	
Animals,	4	35	4		3	1	10	3		74	1
Asphyxiation or suffocation,	7	2	1							14	5
Doors, windows or gates (Exclusive of elevator gates),	12	10	2		1		1			37	
Drowning,		1			1					2	2
Flying objects (Not from machines, tools or explosives),	32	29	6		3				1	77	
Frost bites,	4	3	2		1					15	
Heat prostrations,											
Intentional violence,	6		1		2		1		2	12	3
Lightning,					1					3	
All others,	12	7	5		3	1				37	3
Nature of Injury.											
Total,	2,077	1,832	431	4	283	34	125	45	48	6,235	195
Burns and scalds,	249	76	29		12	4	1	1		453	

Crushes and bruises,	685	776	174	1	93	7	41	11	12	2,238
Cuts and lacerations,	513	447	70	1	54	10	20	7	11	1,456
Fractures, sprains and dislocations,	477	411	125	1	93	10	47	20	24	1,575
Hernia,	28	13	10		5		5	3		78
Blood poisoning,	55	27	5		12	3	4	2		177
Punctures,	23	24	6	1	4		4			89
Unclassified,	47	48	12		10		3	1	1	169
Loss of Parts.										
Total,	85	50	14		11		3	2	2	208
Eyes,	30	21	8							66
Arms,	1	2	1							8
Hands,	13	5	1					2	1	28
Fingers,	29	12			6		3			63
Legs,	5	7	1		2				1	17
Feet,	8	1	3		1					14
Toes,	8	2			2					12
Social Condition.										
Total,										
Married,	1,224	1,142	288	2	161	17	53	27	36	3,735
Single,	730	614	109	2	91	15	53	14	8	2,074
Not given,	123	76	34		31	2	19	4	4	426
Compensation.										
Amount paid—Disability cases,	154,234	115,102	33,748	58	14,428	1,145	7,795	4,766	10,942	416,033
Fatal cases—Amount paid and awarded,	130,575	246,877	61,177		18,285		2,000		13,155	565,569
Estimated medical cost,										
Total,										
Degree.										
Fatal,	40	82	26		6		2		5	195
Serious,	2,037	1,750	405	4	277	34	123	45	43	6,040
Sex.										
Male,	2,064	1,832	424	3	271	28	113	44	45	6,108
Female,	13		7	1	12	6	12	1	3	127
Number of dependents,	2,026	1,298	364	1	232	15	51	24	48	5,209
Total number of accidents,	2,077	1,832	431	4	283	34	125	45	48	6,235

TABLE COVERING COMPENSABLE ACCIDENTS FOR MARCH, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	39	17	21	15	20	22	3	50	39	38	3
Boilers and steam pipes,			1						1		
Boiler explosions,			1						1		
Prime movers—Stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	5	3	5	1	2	1		4	3	5	
Belts and pulleys,	1	1	1	1		1		1	2	3	
Chains and sprockets,	1		2		1						
Cogs, gears, etc.,			2		1			2	1	1	
Fly wheels,											
Operating or repairing apparatus (Electrical),											
Operating or repairing apparatus (Not electrical),											
Ropes, cables and drums,	2										
Set screws, keys and bolts,	1										
Shafts and couplings,		1						1		1	
Unguarded or uncovered switches,											
All others,		1									
Elevators,	6	3	6	5	6	5		7	7	14	1
Cable breaking,	1		2						1	3	
Cable unwinding,		1							1		
Cable—caught by,	1		2	3	3	3		5	3	6	
Car—caught by,	1		1	1		1		2		1	
Car—struck by,			1		1						

Counterweight—struck by,									1			
Defective equipment,									1	2		
Entering or leaving car,					1					1	1	
Fall of car,	2	1								1		
Fall of person,	1	1		1								
Falling objects,						1						
All others,					1							
Cranes, hoisting apparatus, etc.,	14						1					
Cable catching person,	2											
Car striking person,	1						1					
Cleaning, oiling or repairing,												
Falling objects (other than load),	1											
Falls from,												
Load falling,	2											
Run over by,												
Struck by load or tackle (not falling),	7											
All others,	1											
Working machines,	14	11	9	6	12	16	2	39	28	19	2	
Adjusting machine or work,	1	1	1				1	2	4	2	1	
Breaking of machine or work,	1		1	1				1				
Cleaning,				1	2			2				
Emery wheels (bursting),												
Flying objects,	1	4	3					3		4		
Oiling,	1				1			1				
Operating or feeding,	4	3	2	6	6	15		20	19	12	1	
Repairing,									1			
Saws,	2	1	1	1	1	1		5	1			
Starting or stopping,	4	1	1		2			3	3	1		
All others,		1					1	2				
Explosives, Electricity, Fires, Hot and Corrosive Substances.												
Total,	13	19	4	1	6	1	2	3		4	1	
Corrosive, substances,												
Electricity,	1		1									
Cutting or welding,												
Explosives,	3	5	1				1					
Acetylene,												
Carbon dioxide,												
Compressed air,							1					

TABLE COVERING COMPENSABLE ACCIDENTS FOR MARCH, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Dust,											
Dynamite, powder or nitro-glycerine,	2	2	1								
Gas,		2									
Gasoline,	1	1									
Manufacturing or storing,											
Transporting or handling,											
All others,											
Hot substances or flames,	9	14	2	1	6	1	1	3		4	1
Asphalt, pitch or tar,											
Cutting or welding (not electrical),											
Flames,	2		1					1		1	
Hot water,	6	2		1	4			1		2	1
Molten metal—explosion of,											
Molten metal or slag (all others),	1	1	1								
Other hot substances (scalds),		9			2	1	1	1		1	
All others,		1									
Conflagration,		1									
Falling Objects.											
Total,	65	11	27	2	9	1		17	7	6	1
Rock and earth,	6	1	10		1						
Collapse of buildings or walls,	3		1		1						
Collapse of scaffolds or stagings,	5	1	1							1	
Collapse of piled up material,	3		1						1		
Fall of roof (mines),	5		1		1						
Objects dropped by other persons,	5	2	1			1		2		1	

Objects falling from trucks or vehicles (not loading or unloading),	9	2	2					2	2			
Objects falling from buildings, trestles or scaffolds,	26	5	8	2	5			6	4	4		
All others,	3		2		1			7			1	
Fall of Persons.												
Total,	116	28	25	8	27	9	11	24	16	22	4	
From ladder,	16	4	2		1			1	2	6		
From scaffolds or platforms,	24	2	2	1	1	2		2	2	2		
From vehicles,	9	2	2		4		4	8	2		2	
From structures in course of erection,	14											
From structures (all others),	5	1	1		1							
From other elevations,	5	1	2				1	2		1		
Into excavations,	5	2	1									
Into other openings,	3	3	1		4	3		3				
On level,	31	10	12	6	12	3	3	6	5	11	1	
Stairways,	3	1	1	1	2	1	3	2	5	2	1	
All others,	1	2	1		2							
Handling of Tools or Objects.												
Total,	105	35	42	8	26	9	15	33	16	11	2	
Carrying or lifting objects (not loading or unloading),	48	15	16	3	9	3	2	6	6	4	1	
Chipping or grinding,	3		2									
Handling of sharp objects,	9	3	9	1	3	3	2	2	3	4	1	
Loading or unloading,	10	6	5		5		7	10	2			
Tools in hands of injured persons,	28	10	8	4	7	2	4	13	3	2		
Tools in hands of fellow workmen,	6	1	2		2	1		2	2			
All others,	1									1		
Power Vehicles.												
Total,	31	6	18	2	11		5	15	2	2	1	
Collisions,	1			1	1							
Coupling or uncoupling cars,	6	1	2		1		1	3			1	
Defective equipment,												
Derailment—replacing cars,			1				1					
Fell from, over or into,	5		3		1			2				
Improperly loaded ladles or cars,								1				
Loading or unloading material,	7	3	8		1		1	7		1		
Not on track,	5		1	1	3				1	1		
Struck by car or engine,	7	1	2		4		2	2				
Struck by overhead or side obstruction,		1							1			
Sudden starting or stopping,												
All others,			1									
Stepping on Sharp Objects.												
Total,	7	1			1					1		

TABLE COVERING COMPENSABLE ACCIDENTS FOR MARCH, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Nails,	5	1			1					1	
All others,	2										
Running Into or Striking Against Objects. Total,	9	3	9	8	4	4	1	5	5	3	
Poisonous Substances. Total,		1		1							
Miscellaneous. Total,	22	14	14	1	3	2	8	14	2		2
Acids and liquids,	2	6	2				2	1			
Animals,	4	2	2		1		2	2			1
Asphyxiation or suffocation,	1		2		1						
Doors, windows or gates (Exclusive of elevator gates),	2	1	2		1		3		1		
Drowning,	1										
Flying objects (Not from machines, tools or explosives),	4	1	3					6			
Frost bites,											
Heat prostrations,											
Intentional violence,	1							1			
Lightning,											
All others,	7	4	3	1		2	1	4	1		1
Nature of Injury. Total,	407	135	160	46	107	48	45	161	87	87	14
Burns and scalds,	12	25	6	1	6	2	2	2	1	5	2

Crushes and bruises,	156	33	54	14	43	17	13	54	31	30	4
Cuts and lacerations,	53	23	39	10	23	13	10	54	22	12	
Fractures, sprains and dislocations,	155	40	45	10	26	8	15	39	26	26	5
Hernia,	1	3	3				1	2		2	2
Blood poisoning,	10	6	3	5	1	2	2	4	3	3	1
Punctures,	6	1	2	3	3	1		1		3	
Unclassified,	14	4	8	3	5	5	2	5	4	6	
Loss of Parts.											
Total,	17	3	3	3	7		1	4		2	
Eyes,	4	2	2	2			1	1			
Arms,											
Hands,	1	1			2			2		2	
Fingers,	5		1	1	2			1			
Legs,											
Feet,	2				3						
Toes,	5										
Social Condition.											
Total,											
Married,	224	93	105	11	57	20	31	97	46	44	10
Single,	118	31	48	29	39	26	11	51	36	35	3
Not given,	65	11	7	6	11	2	3	13	5	8	1
Compensation.											
Amount paid—Disability cases,	29,356	7,990	9,156	3,221	8,690	3,300	3,440	9,750	2,205	7,607	4,263
Fatal cases—Amount paid and awarded,	37,464	9,559			8,648		2,500	2,500	4,916		
Estimated medical cost,											
Total,											
Degree.											
Fatal,	14	5			5		1	1	2		
Serious,	393	130	160	46	102	48	44	160	85	87	14
Sex.											
Male,	403	133	156	28	101	48	45	160	74	59	12
Female,	4	2	4	18	6			1	13	28	2
Number of dependents,	267	155	172	8	72	22	37	104	58	52	9
Total number of accidents,	407	135	160	46	107	48	45	161	87	87	14

TABLE COVERING COMPENSABLE ACCIDENTS FOR MARCH, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	494	108	57	1	47	6	17	4	2	1,003	21
Boilers and steam pipes,	2	2	1							7	2
Boiler explosions,	2	2	1							7	2
Prime movers—Stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	42	24	1		4		2			102	1
Belts and pulleys,	20	3								34	1
Chains and sprockets,	8	5					1			18	
Cogs, gears, etc.,	7	2			2		1			19	
Fly wheels,											
Operating or repairing apparatus (Electrical),	2									2	
Operating or repairing apparatus (Not electrical),		1								1	
Ropes, cables and drums,		10			1					13	
Set screws, keys and bolts,	2	1								4	
Shafts and couplings,	3	1								7	
Unguarded or uncovered switches,		1								1	
All others,			1		1					3	
Elevators,	81	35	21		7	6	3	1	1	215	2
Cable breaking,	15	3			1					26	
Cable unwinding,	3	1	2			1				9	
Cable—caught by,	25	9	7		1	2	1			71	
Car—caught by,	2	1	1		2	2		1		16	1
Car—struck by,	2	4	1							9	1

Counterweight—struck by,	3	3	1						1	9	
Defective equipment,	4	1	1							9	
Entering or leaving car,	1	1			2	1	2			10	
Fall of car,	15	8	7		1					35	
Fall of person,	4	3	1							11	
Falling objects,	1	1								3	
All others,	6									7	
Cranes, hoisting apparatus, etc.,	145	9	11		12			1		193	11
Cable catching person,	26	4	2		2					36	
Car striking person,	13		1		2					18	
Cleaning, oiling or repairing,											
Falling objects (other than load),	6				1					8	1
Falls from,	7				1					8	1
Load falling,	39	1	2		3					47	1
Run over by,	3									3	
Struck by load or tackle (not falling),	47	4	5		2			1		66	5
All others,	4				1					7	
Working machines,	224	38	23	1	24		12	2	1	486	5
Adjusting machine or work,	18	6	4		1		1			43	
Breaking of machine or work,	5	2			1					12	
Cleaning,	11	2	1							19	
Emery wheels (bursting),	2									2	
Flying objects,	36	9	4						1	65	
Oiling,	4	2								9	1
Operating or feeding,	112	7	6	1	16		4			234	1
Repairing,	6	5								12	
Saws,	1	2	2		2					20	
Starting or stopping,	21	2	1		3		7	2		51	
All others,	8	1	5		1					19	3
Explosives, Electricity, Fires, Hot and Corrosive Substances.											
Total,	221	113	30		12	6	4		2	442	23
Corrosive, substances,		2								2	
Electricity,	7	13	7							29	3
Cutting or welding,											
Explosives,	25	75	6		2	1	3			122	7
Acetylene,	1									1	
Carbon dioxide,	1					1				2	
Compressed air,	2	2								5	

TABLE COVERING COMPENSABLE ACCIDENTS FOR MARCH, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Dust,		1								1	
Dynamite, powder or nitro-glycerine,	3	28			1					37	3
Gas.	7	33	5		1					48	2
Gasoline,	2	2	1				1			8	1
Manufacturing or storing,	1	9								10	
Transporting or handling,							1			1	
All others,	8						1			9	1
Hot substances or flames,	189	23	17		10	5	1		2	289	13
Asphalt, pitch or tar,	1		1		1					3	
Cutting or welding (not electrical),	28	5	5		2				1	46	3
Flames,	27	4	7		4	3				62	3
Hot water,	12	1								13	
Molten metal—explosion of,	79	3	3							88	4
Molten metal or slag (all others),	42	9	1		3	2	1		1	74	2
Other hot substances (scalds),										1	
All others,		1								2	1
Conflagration,											
Falling Objects.											
Total,	272	601	52		36	2	6	4	4	1,123	38
Rock and earth,	5	218			3		2			246	4
Collapse of buildings or walls,	1	3	1		1		1		2	14	5
Collapse of scaffolds or stagings,	2	4	1		3				1	19	
Collapse of piled up material,	37	1	7		4					54	
Fall of roof (mines),	5	329	3		2					346	24
Objects dropped by other persons,	15	5	3		4					39	

Objects falling from trucks or vehicles (not loading or unloading),	45	12	12		1			2	1	90	1
Objects falling from buildings, trestles or scaffolds,	128	23	21		16	2		2		252	3
All others,	34	6	4		2		3			63	1
Fall of Persons.											
Total,	212	156	71	2	68	6	43	15	23	886	21
From ladder,	26	4	5	1	10		4	1	1	84	2
From scaffolds or platforms,	20	8	5		6		1	2	3	83	2
From vehicles,	4	10	6	1	11	1	13	2	6	87	2
From structures in course of erection,	3	1			2					20	2
From structures (all others),	9	1	2		2		1	1	1	25	2
From other elevations,	18	10	4		3	1	2	1	1	52	2
Into excavations,	9	2			1					20	
Into other openings,	14	13	13		1		3	1		62	6
On level,	94	95	34		27	2	18	6	8	384	1
Stairways,	11	8			4	2	1	1	3	52	1
All others,	4	4	2		1					17	1
Handling of Tools or Objects.											
Total,	573	365	152	3	71	13	34	9	8	1,530	4
Carrying or lifting objects (not loading or unloading),	284	144	54	2	37	2	10	5	4	655	3
Chipping or grinding,	23	25	8							61	
Handling of sharp objects,	51	18	8		8	7	9		1	142	
Loading or unloading,	60	31	15		8	1	8	3	1	172	1
Tools in hands of injured persons,	122	123	55		10	3	7	1	1	403	
Tools in hands of fellow workmen,	32	23	10	1	7				1	90	
All others,	1	1	2		1					7	
Power Vehicles.											
Total,	140	467	106	1	35	1	23	6	4	876	45
Collisions,	11	29	19				2	1		65	3
Coupling or uncoupling cars,	23	62	16		4		2	1		123	5
Defective equipment,	1	2								3	
Derailment—replacing cars,	2	78	4		2		1			89	8
Fell from, over or into,	22	29	24	1	4		3	1		95	5
Improperly loaded ladles or cars,										1	
Loading or unloading material,	34	54	15		11		2			144	
Not on track,	12	7	5		6		8	1	2	53	1
Struck by car or engine,	31	158	20		7	1	5	2	2	244	21
Struck by overhead or side obstruction,	4	40	2		1					49	2
Sudden starting or stopping,			1							1	
All others,		8								9	2
Stepping on Sharp Objects.											
Total,	9	7	6				1		1	34	

TABLE COVERING COMPENSABLE ACCIDENTS FOR MARCH, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Nails,	4	7	4				1		1	25	
All others,	5		2							9	
Running Into or Striking Against Objects.											
Total,	74	38	15		10	2	7	2	1	200	1
Poisonous Substances.											
Total,	2	4	2		2				1	13	
Miscellaneous.											
Total,	77	116	27	1	32		18	4	11	368	14
Acids and liquids,	8	13	4		4				1	43	3
Animals,	3	44	2		8		8	1	3	83	4
Asphyxiation or suffocation,	2	2	1	1	1					11	
Doors, windows or gates (Exclusive of elevator gates),	13	21	3		2		3	1		53	
Drowning,										1	1
Flying objects (Not from machines, tools or explosives),	27	22	4		5				1	73	1
Frost bites,											
Heat prostrations,											
Intentional violence,	1	1	3		4		1		4	16	2
Lightning,											
All others,	23	13	10		8		6	2	2	88	3
Nature of Injury.											
Total,	2,074	1,975	518	8	313	36	153	44	57	6,475	167
Burns and scalds,	239	86	36	5	14	6	2	1	1	454	

Crushes and bruises,	735	839	198		116	9	60	17	22	2,445
Cuts and lacerations,	461	409	95		39	11	22	2	7	1,305
Fractures, sprains and dislocations,	468	507	138	2	101	6	47	18	21	1,708
Hernia,	27	22	7		8		1	1	1	81
Blood poisoning,	58	28	9		16	4	6	2	4	167
Punctures,	23	21	12		5		2			83
Unclassified,	63	63	23	1	14		13	3	1	237
Loss of Parts.										
Total,	55	40	4	1	7				1	148
Eyes,	19	15	2		1					49
Arms,	4	2			1					7
Hands,	6	3		1	3					21
Fingers,	13	8	1		1					33
Legs,	2	4			1				1	8
Feet,	5	7	1							18
Toes,	6	1								12
Social Condition.										
Total,										
Married,	1,296	1,272	362	5	181	16	74	33	43	4,020
Single,	637	645	140	3	89	16	62	10	7	2,036
Not given,	141	58	16		43	4	17	1	7	419
Compensation.										
Amount paid—Disability cases,	127,657	131,255	23,951	1,164	21,436	726	4,058	1,200	4,613	405,038
Fatal cases—Amount paid and awarded,	102,405	235,705	15,715		18,021		14,666	8,653	14,051	474,863
Estimated medical cost,										
Total,										
Degree.										
Fatal,	32	77	6		7		7	4	6	167
Serious,	2,042	1,898	512	8	306	36	146	40	51	6,308
Sex.										
Male,	2,065	1,975	515	7	297	28	143	44	57	6,350
Female,	9		3	1	16	8	10			125
Number of dependents,	2,140	1,465	519	4	228	14	75	37	45	5,483
Total number of accidents,	2,074	1,975	518	8	313	36	153	44	57	6,475

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	42	23	22	21	32	11	5	51	44	33	6
Boilers and steam pipes,		1							1		
Boiler explosions,		1							1		
Prime movers—Stationary engines and motors,									1		
Sudden starting or stopping,									1		
Power and transmission apparatus,	7	3	4	3		1	2	2	1	5	1
Belts and pulleys,		2	2	3		1	1	2	1	2	1
Chains and sprockets,	2		1							1	
Cogs, gears, etc.,	4										
Fly wheels,											
Operating or repairing apparatus (Electrical),											
Operating or repairing apparatus (Not electrical),							1			1	
Ropes, cables and drums,	1										
Set screws, keys and bolts,											
Shafts and couplings,		1	1							1	
Unguarded or uncovered switches,											
All others,											
Elevators,	8	1	9	2	4	2	1	8	6	5	1
Cable breaking,	1		2		1						
Cable unwinding,	1				1		1				
Cable—caught by,			2	1	1			3	4	2	1
Car—caught by,	1					1			1		
Car—struck by,		1								1	

Counterweight—struck by,								1		2	
Defective equipment,			1					1			
Entering or leaving car,			1								
Fall of car,	2		2		1	1		2	1		
Fall of person,	3		1	1							
Falling objects,								1			
All others,											
Cranes, hoisting apparatus, etc.,	15	1			3						
Cable catching person,	1										
Car striking person,	1										
Cleaning, oiling or repairing,		1									
Falling objects (other than load),					1						
Falls from,	2				1						
Load falling,	3				1						
Run over by,											
Struck by load or tackle (not falling),	8										
All others,											
Working machines,	12	17	9	16	25	8	2	41	35	23	4
Adjusting machine or work,			2	3	2	1		2	2	4	
Breaking of machine or work,								1	1	1	
Cleaning,			1	3	3				2	3	
Emery wheels (bursting),											
Flying objects,		2	1					3	1		
Oiling,			1		1						
Operating or feeding,	7	6	2	10	12	6	2	26	28	11	2
Repairing,	1	2	1		3						
Saws,		1						8			
Starting or stopping,	4	4	1		3	1		1	1	3	2
All others,		2			1					1	
Explosives, Electricity, Fires, Hot and Corrosive Substances.											
Total,	13	18	6	1	2		1	4	5	4	1
Corrosive, substances,											
Electricity,		1	1								
Cutting or welding,											
Explosives,	3	7		1	1		1				
Acetylene,											
Carbon dioxide,							1				
Compressed air,											

TABLE COVERING COMPENSABLE ACCIDENTS FOR APRIL, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Dust,				1							
Dynamite, powder or nitro-glycerine,	3	6									
Gas,					1						
Gasoline,											
Manufacturing or storing,											
Transporting or handling,											
All others,		1									
Hot substances or flames,	10	10	5		1			4	5	4	1
Asphalt, pitch or tar,	1										
Cutting or welding (not electrical),											
Flames,	3	3			1						
Hot water,	1	4	2					3	2	3	1
Molten metal—explosion of,											
Molten metal or slag (all others),	1								1		
Other hot substances (scalds),	3	3	3					1	2	1	
All others,	1										
Conflagration,											
Falling Objects.											
Total,	42	16	34		11	1	2	20	4	2	
Rock and earth,	4		10								
Collapse of buildings or walls,	2		2								
Collapse of scaffolds or stagings,	8						1		1		
Collapse of piled up material,	2	1	1		2			4			
Fall of roof (mines),			1								
Objects dropped by other persons,	3	1	3		2			2	1		

Objects falling from trucks or vehicles (not loading or unloading),	2	2	1					1			
Objects falling from buildings, trestles or scaffolds,	20	9	12		4	1	1	7		1	
All others,	1	3	4		3			6	2	1	
Fall of Persons.											
Total,	135	35	36	7	28	5	19	16	12	18	3
From ladder,	14	3	3	1	3			1	1	1	
From scaffolds or platforms,	28	5	4	1	1					1	
From vehicles,	17	2	4		10	1	8	4	1	2	
From structures in course of erection,	19	1									
From structures (all others),	11	1	2		1		1				
From other elevations,	6	4	3		1			1	1	1	
Into excavations,		1			1						
Into other openings,	10	1	3		1				3	1	
On level,	23	16	15	4	10	3	5	8	5	11	3
Stairways,	6		1	1		1	4	1	1	1	
All others,	1	1	1				1	1			
Handling of Tools or Objects.											
Total,	90	32	48	12	45	14	9	37	11	20	1
Carrying or lifting objects (not loading or unloading),	39	10	12	2	17	3	4	12	4	11	
Chipping or grinding,	4	2								1	
Handling of sharp objects,	9	5	23	5	8	3		8	2	1	
Loading or unloading,	8	5	3	1	9		2	9	1	1	
Tools in hands of injured persons,	22	10	9	3	7	8	3	5	4	5	1
Tools in hands of fellow workmen,	8		1	1	4					1	
All others,											
Power Vehicles.											
Total,	38	18	23	1	12		3	12	5	1	1
Collisions,	1		1					1	1		
Coupling or uncoupling cars,	4	2	1					2			
Defective equipment,											
Derailment—replacing cars,	1	1	5						1		
Fell from, over or into,	2	2	3		1			4	1		
Improperly loaded ladles or cars,											
Loading or unloading material,	13	6	6	1	3			2	2		
Not on track,	6	3			5		3	2			
Struck by car or engine,	9	4	6		3			1		1	1
Struck by overhead or side obstruction,	1		1								
Sudden starting or stopping,											
All others,	1										
Stepping on Sharp Objects.											
Total,	4	3				1				3	

TABLE COVERING COMPENSABLE ACCIDENTS FOR APRIL, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Nails,	4	2				1				2	
All others,		1								1	
Running Into or Striking Against Objects. Total,	6	2	10	4	6	4		8	3	7	
Poisonous Substances. Total,	1		2	1						1	
Miscellaneous. Total,	25	20	9	2	12	2	9	3	2	13	1
Acids and liquids,	2	6	2							1	
Animals,	4	5	1		4		2	1			
Asphyxiation or suffocation,		1					1				
Doors, windows or gates (Exclusive of elevator gates),	3	2			1					2	
Drowning,											
Flying objects (Not from machines, tools or explosives),	4	4	4	1	1		1	1		3	
Frost bites,											
Heat prostrations,									1	1	
Intentional violence,	1										
Lightning,	1										
All others,	10	2	2	1	6	2	5	1	1	6	1
Nature of Injury. Total,	396	167	190	49	148	38	48	151	86	102	13
Burns and scalds,	13	20	7	1	3	1		4	6	6	

Crushes and bruises,	160	48	65	14	51	10	20	48	36	31	5
Cuts and lacerations,	49	29	58	13	32	9	8	52	27	22	2
Fractures, sprains and dislocations,	144	48	38	8	47	5	15	35	10	31	5
Hernia,	7	3	4		1	3			2	3	
Blood poisoning,	13	8	5	9	8	5	3	7	1	7	1
Punctures,	4	3	8	2	2	3		1	2	1	
Unclassified,	6	8	5	2	4	2	2	4	2	1	
Loss of Parts.											
Total,	10	7	7		7		2	9	2	3	
Eyes,	5	3	2				1	4		2	
Arms,	1	1								1	
Hands,		1			3		1	1	1		
Fingers,	1	1	2		4			4	1		
Legs,	1	1									
Feet,	1										
Toes,	1		3								
Social Condition.											
Total,											
Married,	238	100	124	18	86	22	33	90	44	53	5
Single,	103	51	54	25	46	13	7	51	36	42	6
Not given,	55	16	12	6	16	3	8	10	6	7	2
Compensation.											
Amount paid—Disability cases,	72,413	15,907	8,362	1,331	9,003	1,404	4,721	10,379	3,931	6,793	274
Fatal cases—Amount paid and awarded,	33,797	24,370	19,256		4,541		5,185		400	6,283	
Estimated medical cost,											
Total,											
Degree.											
Fatal,	17	7	8		1		2		4	2	
Serious,	379	160	182	49	147	38	46	151	82	100	13
Sex.											
Male,	396	164	189	36	140	37	47	149	77	80	8
Female,		3	1	13	8	1	1	2	9	22	5
Number of dependents,	303	140	212	28	104	44	36	83	38	54	1
Total number of accidents,	396	167	190	49	148	38	48	151	86	102	13

TABLE COVERING COMPENSABLE ACCIDENTS FOR APRIL, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Machinery.											
Total,	480	89	53	1	59	2	26	4	3	1,007	22
Boilers and steam pipes,	3	1	2							8	2
Boiler explosions,											
Prime movers—Stationary engines and motors,	3	1	2							8	2
Sudden starting or stopping,			1							2	1
Power and transmission apparatus,	30	27	1		2		1			2	1
Belts and pulleys,	10	9					1			90	4
Chains and sprockets,	13	5	1							35	1
Cogs, gears, etc.,	2	1								22	
Fly wheels,	1									8	
Operating or repairing apparatus (Electrical),					1					1	
Operating or repairing apparatus (Not electrical),										1	
Ropes, cables and drums,	2	11			1					17	2
Set screws, keys and bolts,											
Shafts and couplings,										3	1
Unguarded or uncovered switches,											
All others,	2	1								3	
Elevators,	54	11	6	1	8	1	8	2		138	1
Cable breaking,	4	1			1		1			11	
Cable unwinding,	3	1	1	1			4			13	
Cable—caught by,	24	2			4		1	1		46	
Car—caught by,	3				1	1	1	1		10	1
Car—struck by,					1					3	

Counterweight—struck by,	2									5	
Defective equipment,	2									4	
Entering or leaving car,	2		2							5	
Fall of car,	13	4	2							28	
Fall of person,		2					1			8	
Falling objects,											
All others,	1	1	1		1					5	
Cranes, hoisting apparatus, etc.,	125	13	9		6	1		1		174	11
Cable catching person,	23	5	1							30	
Car striking person,	17	1			1					20	3
Cleaning, oiling or repairing,										1	
Falling objects (other than load),	6		1							8	1
Falls from,	4	1								8	
Load falling,	27	2	1		4					38	3
Run over by,	43					1		1		45	
Struck by load or tackle (not falling),		3	5		1					17	3
All others,	5	1	1							7	1
Working machines,	268	37	34		43		17	1	3	595	3
Adjusting machine or work,	24	3	5		3			1		52	2
Breaking of machine or work,	9	5	3		3					23	1
Cleaning,	11	2	2		1		3			31	
Emery wheels (bursting),	3									3	
Flying objects,	29	4	5		4					49	
Oiling,	5	2			1				1	11	
Operating or feeding,	150	13	9		16		7			307	
Repairing,	3	2	1		1					14	
Saws,	7	2			4		1			23	
Starting or stopping,	21	1	8		9		5		2	66	
All others,	6	3	1		1		1			16	
Explosives, Electricity, Fires, Hot and Corrosive Substances.											
Total,	204	131	37		11	4	3		2	447	39
Corrosive, substances,	1									1	
Electricity,	9	10	14		3					38	8
Cutting or welding,											
Explosives,	32	83	6		3		1		2	140	24
Acetylene,	1									1	
Carbon dioxide,	1									2	
Compressed air,											

TABLE COVERING COMPENSABLE ACCIDENTS FOR APRIL, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Dust,	1									2	1
Dynamite, powder or nitro-glycerine,	6	48	1						1	65	15
Gas,	10	30	3				1		1	46	5
Gasoline,	2	1	2		1					6	
Manufacturing or storing,											
Transporting or handling,		1								1	
All others,	11	3			2					17	3
Hot substances or flames,	162	38	17		5	4	2			268	7
Asphalt, pitch or tar,	1				1					3	
Cutting or welding (not electrical),			1							1	
Flames,	20	8	2		1	1	1			40	3
Hot water,	8	15	8			1	1			49	2
Molten metal—explosion of,	6	1								7	
Molten metal or slag (all others),	80	1	2		2					87	1
Other hot substances (scalds),	25	5	4			2				49	1
All others,	22	8			1					32	
Conflagration,											
Falling Objects.											
Total,	287	669	42	1	43	1	7	3	3	1,188	64
Rock and earth,	9	119	1	1	1				1	146	7
Collapse of buildings or walls,	1	2	1						2	10	3
Collapse of scaffolds or stagings,	5	1			1					17	
Collapse of piled up material,	24	4	3		6		1			48	1
Fall of roof (mines),	10	495	1		3		1			511	45
Objects dropped by other persons,	27	3	3		11					56	

Objects falling from trucks or vehicles (not loading or unloading),	35	8	8		18	1	3	1		80	1
Objects falling from buildings, trestles or scaffolds,	127	23	18							223	6
All others,	49	14	7		3		2	2		97	1
Fall of Persons.											
Total	195	188	80	3	69	10	52	9	22	942	19
From ladder,	22	6	7		6	1	6		2	77	2
From scaffolds or platforms,	14	10	3	1	7	1	3			79	
From vehicles,	11	6	6		11		15	1	3	102	2
From structures in course of erection,	2		1		1					24	2
From structures (all others),	7	7			1	1		1		33	4
From other elevations,	15	11	9	1	4		4		1	62	2
Into excavations,	7	2	1		1				1	14	
Into other openings,	20	11	8		7	2	3	1		71	4
On level,	86	121	42	1	23	3	15	4	11	409	1
Stairways,	8	7	2		7	1	4	2	3	50	1
All others,	3	7	1		1	1	2		1	21	1
Handling of Tools or Objects.											
Total,	598	413	162	3	63	13	27	8	4	1,610	4
Carrying or lifting objects (not loading or unloading),	298	191	65	2	25	6	12	1	3	717	1
Chipping or grinding,	30	21	5		1					64	
Handling of sharp objects,	33	26	5		6	3	4	1		142	
Loading or unloading,	37	30	16		10		7	6		145	1
Tools in hands of injured persons,	147	128	62		15	4	3		1	440	2
Tools in hands of fellow workmen,	53	17	9	1	6		1			102	
All others,											
Power Vehicles.											
Total,	133	509	89		35		11	7	10	998	69
Collisions,	3	23	5		1		1			37	5
Coupling or uncoupling cars,	20	80	6		1				2	118	4
Defective equipment,	2	1								3	
Derailment—replacing cars,	6	92	5		1				1	113	8
Fell from, over or into,	12	36	19		11		1	2	1	95	6
Improperly loaded ladles or cars,											
Loading or unloading material,	30	63	18		9		1	2		156	1
Not on track,	12	7	10		4		8	2	3	65	6
Struck by car or engine,	37	154	18		7			1	3	245	35
Struck by overhead or side obstruction,	7	43	6							58	3
Sudden starting or stopping,		1	1							2	
All others,	4	9	1		1					16	1
Stepping on Sharp Objects.											
Total,	12	11	2	1	1		2	1		41	

TABLE COVERING COMPENSABLE ACCIDENTS FOR APRIL, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Nails,	9	10	2	1	1			1		33	
All others,	3	1					2			8	
Running Into or Striking Against Objects.											
Total,	51	57	15		12	1	3	2	1	192	1
Poisonous Substances.											
Total,	3	2	1		1		2		1	15	2
Miscellaneous.											
Total,	94	129	21	1	28	2	11	3	8	395	14
Acids and liquids,	6	9	1		2					29	
Animals,	3	43			11		1		1	76	2
Asphyxiation or suffocation,	3	3			1				1	10	2
Doors, windows or gates (Exclusive of elevator gates),	17	9	6		2		3	1	1	47	1
Drowning,											
Flying objects (Not from machines, tools or explosives),	34	42	5		5		2		3	110	1
Frost bites,											
Heat prostrations,											
Intentional violence,	2	2	2		1		1		1	12	1
Lightning,			1			1	1			4	
All others,	29	21	6	1	6	1	3	2	1	107	7
Nature of Injury.											
Total,	2,057	2,198	502	10	322	33	144	37	54	6,745	234
Burns and scalds,	224	99	32		10	4	3		1	434	

Crushes and bruises,	702	994	220	2	107	11	55	19	20	2,618
Cuts and lacerations,	503	450	68		64	5	16	6	5	1,418
Fractures, sprains and dislocations,	471	530	152	7	102	9	56	7	23	1,743
Hernia,	46	22	10		4	2	4	1		112
Blood poisoning,	51	30	5		17	2	4	2	2	180
Punctures,	27	30	6	1	12		2	1		105
Unclassified,	33	43	9		6		4	1	3	135
Loss of Parts.										
Total,	78	38	9		6	2	3		1	184
Eyes,	29	22	2		2				1	73
Arms,	4		1				1			9
Hands,	10	4	1		1		1			24
Fingers,	26	3	2		3	1				48
Legs,	5	3	3			1	1			15
Feet,	3	6								10
Toes,	1									5
Social Condition.										
Total,										
Married,	1,165	1,325	341	5	168	13	59	19	49	3,948
Single,	730	784	138	4	107	12	69	11	7	2,287
Not given,	162	89	23	1	47	8	25	7	7	510
Compensation.										
Amount paid—Disability cases,	150,969	159,070	42,585	374	17,208	2,266	10,172	1,203	4,983	514,348
Fatal cases—Amount paid and awarded,	124,641	322,853	29,980		13,343		6,691	6,666	15,422	613,428
Estimated medical cost,										
Total,										
Degree.										
Fatal,	47	114	16		6		3	2	5	234
Serious,	2,010	2,084	486	10	316	33	141	35	49	6,511
Sex.										
Male,	2,044	2,197	492	7	305	29	128	36	52	6,613
Female,	13	1	10	3	17	4	16	1	2	132
Number of dependents,	1,984	1,390	479	5	216	23	68	13	40	5,261
Total number of accidents,	2,057	2,198	502	10	322	33	144	37	54	6,745

TABLE COVERING COMPENSABLE ACCIDENTS FOR MAY, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	43	12	17	19	32	15		43	34	34	3
Boilers and steam pipes,											
Boiler explosions,											
Prime movers—Stationary engines and motors,		1									
Sudden starting or stopping,		1									
Power and transmission apparatus,	13	1	7		4	1		2	2	2	
Belts and pulleys,	1		5		2	1		1	1	1	
Chains and sprockets,	5	1	1		1					1	
Cogs, gears, etc.,	2							1	1		
Fly wheels,											
Operating or repairing apparatus (Electrical),											
Operating or repairing apparatus (Non-electrical),											
Ropes, cables and drums,	3				1						
Set screws, keys and bolts,											
Shafts and couplings,	1		1								
Unguarded or uncovered switches,											
All others,	1										
Elevators,	5	1	2	1	4	3		4	5	3	
Cable breaking,								1		2	
Cable unwinding,	1				1						
Cable—caught by,	1				2	1		2	5		
Car—caught by,		1				1				1	
Car—struck by,			1		1						

Counterweight—struck by,											
Defective equipment,											
Entering or leaving car,											
Fall of car,	3		1								
Fall of person,						1					
Falling objects,				1							
All others,								1			
Cranes, hoisting apparatus, etc.,	8	1	1	1							
Cable catching person,	1		1								
Car striking person,	2										
Cleaning, oiling or repairing,				1							
Falling objects (other than load),											
Falls from,											
Load falling,											
Run over by,											
Struck by load or tackle (not falling),	3	1									
All others,	2										
Working machines,	17	8	7	17	24	11		37	27	29	3
Adjusting machine or work,	1		1	1	1	1		1	2	2	
Breaking of machine or work,		1			1			1			
Cleaning,			1	1	6	1				7	
Emery wheels (bursting),									1		
Flying objects,	4							1			
Oiling,					1					1	
Operating or feeding,	6	1	3	11	13	7		20	19	15	3
Repairing,	1			1					3		
Saws,				1				9			
Starting or stopping,	3	4		2	2	2		3	1	2	
All others,	2	2	2					2	1	2	
Explosives, Electricity, Fires, Hot and Corrosive Substances.											
Total,	10	15	7		6	2	1	2	1	4	1
Corrosive, substances,		1									
Electricity,	2	1	1		1						1
Cutting or welding,											
Explosives,	2	8	4		1		1			1	
Acetylene,											
Carbon dioxide,											
Compressed air,											

TABLE COVERING COMPENSABLE ACCIDENTS FOR MAY, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Dust,											
Dynamite, powder or nitro-glycerine,	2	4	2								
Gas,		3			1					1	
Gasoline,											
Manufacturing or storing,											
Transporting or handling,											
All others,		1	2				1				
Hot substances or flames,	6	5	2		4	2		2	1	3	
Asphalt, pitch or tar,	2										
Cutting or welding (not electrical),											
Flames,									1		
Hot water,	1	2			1	1		1		1	
Molten metal—explosion of,											
Molten metal or slag (all others),											
Other hot substances (scalds),	3	1	2		3	1				2	
All others,								1			
Conflagration,											
Falling Objects.											
Total,	45	5	22	1	5	1	3	13	6	3	
Rock and earth,	5		15								
Collapse of buildings or walls,	2		1								
Collapse of scaffolds or stagings,	9										
Collapse of piled up material,	2							2	2	2	
Fall of roof (mines),	2		2								
Objects dropped by other persons,	4	1	1		1			1			

Objects falling from trucks or vehicles (not loading or unloading),	4	1			1	1	1	1	1		
Objects falling from buildings, trestles or scaffolds,	12	3	1	1	1		2	2	3		
All others,	5		2		2			7		1	
Fall of Persons.											
Total,	117	15	20	9	20	11	12	18	7	13	2
From ladder,	20	1	1		2	2	3		2	1	
From scaffolds or platforms,	31	2	5		2	1	1			3	
From vehicles,	11	1	3		3		3	5			
From structures in course of erection,	13	1									
From structures (all others),	11		1						1	1	
From other elevations,	2	4	2		1	1		3			
Into excavations,	3										
Into other openings,	6	2	3			1		1		2	
On level,	15	2	5	7	11	4	4	7	2	6	1
Stairways,	4	2		2	1	1	1	1	2		1
All others,	1					1		1			
Handling of Tools or Objects.											
Total,	76	16	48	7	25	16	11	44	15	14	
Carrying or lifting objects (not loading or unloading),	32	7	25	2	14	7	3	10	10	8	
Chipping or grinding,	4		1								
Handling of sharp objects,	8	2	7		1	4	1	7	2		
Loading or unloading,	8	4	6		3	2	5	8	2	2	
Tools in hands of injured persons,	22	3	7	5	6	1	2	17	1	4	
Tools in hands of fellow workmen,	2		2		1	2		2			
All others,											
Power Vehicles.											
Total,	29	9	11		4	1	3	5	9		
Collisions,		1						1			
Coupling or uncoupling cars,	3										
Defective equipment,		1						1			
Derailment—replacing cars,			2								
Fell from, over or into,	1	1	1		1				1		
Improperly loaded ladles or cars,	1										
Loading or unloading material,	8	2	3				1	2	2		
Not on track,	8	1			2	1	1		3		
Struck by car or engine,	6	2	3		1		1	1	3		
Struck by overhead or side obstruction,	2	1	1								
Sudden starting or stopping,											
All others,			1								
Stepping on Sharp Objects.											
Total,	9	1	2		1		1		1	1	

TABLE COVERING COMPENSABLE ACCIDENTS FOR MAY, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Nails,	9	1	2				1				
All others,					1				1	1	
Running Into or Striking Against Objects.											
Total,	4	4	3	2	2		1	3	1	9	1
Poisonous Substances.											
Total,											
Miscellaneous.											
Total,	11	13	4	1	10	3	3	8	1	11	
Acids and liquids,	1	5			1			1		2	
Animals,	2		1		2		1	2	1		
Asphyxiation or suffocation,	1	1									
Doors, windows or gates (Exclusive of elevator gates),	1		1	1	1					5	
Drowning,	1				1		1			1	
Flying objects (Not from machines, tools or explosives),	1	2			1	1		4		2	
Frost bites,											
Heat prostrations,											
Intentional violence,										1	
Lightning,											
All others,	4	5	2		4	2	1	1			
Nature of Injury.											
Total,	344	90	134	39	105	49	35	136	75	89	7
Burns and scalds,	10	15	5	1	6	1		1	2	6	2

Crushes and bruises,	119	30	40	13	50	19	18	61	41	28	3
Cuts and lacerations,	55	13	35	13	19	7	3	37	14	20	1
Fractures, sprains and dislocations,	118	21	43	9	23	17	11	28	16	23	1
Hernia,	8	4	5		1		1	2	2	1	
Blood poisoning,	11	1	1	2	1	3	1	7		7	
Punctures,	12	2	1	1	1		1			2	
Unclassified,	11	4	4		4	2				2	
Loss of Parts.											
Total,	6	3	3		3	1		6	3	2	
Eyes,	3	1	1			1		1		1	
Arms,										1	
Hands,	1	2	1		3			2	3		
Fingers,	1		1					3			
Legs,	1										
Feet,											
Toes,											
Social Condition.											
Total,											
Married,	188	56	78	12	58	36	26	78	31	37	3
Single,	96	24	45	23	33	9	8	45	36	36	2
Not given,	60	10	11	4	14	4	1	13	8	16	2
Compensation.											
Amount paid—Disability cases,	27,434	7,587	8,662	1,850	9,123	2,791	1,477	8,652	5,052	5,583	133
Fatal cases—Amount paid and awarded,	26,908	7,777	7,339		13,113	100	8,166	1,090	4,299		
Estimated medical cost,											
Total,											
Degree.											
Fatal,	19	7	5		6	1	3	1	1		
Serious,	325	83	129	39	99	48	32	135	74	89	7
Sex.											
Male,	343	88	133	31	103	48	34	136	67	68	3
Female,	1	2	1	8	2	1	1		8	21	4
Number of dependents,	226	74	123	16	76	47	50	82	39	35	5
Total number of accidents,	344	90	134	39	105	49	35	136	75	89	7

TABLE COVERING COMPENSABLE ACCIDENTS FOR MAY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Machinery.											
Total,	491	99	31		53	1	15	4	2	948	30
Boilers and steam pipes,	3	1	3		1					8	3
Boiler explosions,	3	1	3		1					8	3
Prime movers—Stationary engines and motors,		1								2	
Sudden starting or stopping,		1								2	
Power and transmission apparatus,	43	32	5		6		1	1		120	5
Belts and pulleys,	12	1	2		2					29	
Chains and sprockets,	8	6						1		24	2
Cogs, gears, etc.,	8	2			2					16	1
Fly wheels,		1								1	
Operating or repairing apparatus (Electrical),		1								1	
Operating or repairing apparatus (Not electrical),	1		1							2	
Ropes, cables and drums,	6	18	1		1		1			31	1
Set screws, keys and bolts,		1								1	
Shafts and couplings,	2	1	1		1					7	1
Unguarded or uncovered switches,											
All others,	6	1								8	
Elevators,	28	24	5		6	1	2	1		95	5
Cable breaking,	2	2								7	
Cable unwinding,			1							3	
Cable—caught by,	10	6			3		1			31	
Car—caught by,	4	3	2		1		1			14	2
Car—struck by,	2	1			2					7	

Counterweight—struck by,	1									1		
Defective equipment,	3									3	1	
Entering or leaving car,	2									2		
Fall of car,	3	6	2			1				16	1	
Fall of person,	1	4								6	1	
Falling objects,								1		1		
All others,		2								4		
Cranes, hoisting apparatus, etc.,	117	7	3		5					143	11	
Cable catching person,	22	3								27	1	
Car striking person,	8		1							11	2	
Cleaning, oiling or repairing,	1									2	1	
Falling objects (other than load),	7				1					8		
Falls from,	3									3		
Load falling,	28	1	1		2					32	1	
Run over by,												
Struck by load or tackle (not falling),	42	3	1		2					52	5	
All others,	6									8	1	
Working machines,	300	34	15		35		12	2	2	580	6	
Adjusting machine or work,	32	3	1		5		2			53		
Breaking of machine or work,	11		3		1					18	1	
Cleaning,	13	2	1		2		1		1	36		
Emery wheels (bursting),	1				1					3		
Flying objects,	39	6	2		2					54	1	
Oiling,	3	5								10		
Operating or feeding,	150	10	5		15		2			280	2	
Repairing,	9	1	1							16		
Saws,	7									17		
Starting or stopping,	22	4			1		6	2		62		
All others,	13	3	2		8		1		1	31	2	
Explosives, Electricity, Fires, Hot and Corrosive Substances.												
Total,	211	120	33	1	6	3	3		3	429	24	
Corrosive, substances,										1		
Electricity,	17	5	10				1		1	40	9	
Cutting or welding,												
Explosives,	32	91	3		1		1		2	147	12	
Acetylene,												
Carbon dioxide,		2								2		
Compressed air,	1									1		

TABLE COVERING COMPENSABLE ACCIDENTS FOR MAY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Dust,	1	1								2	
Dynamite, powder or nitro-glycerine,	4	45								57	9
Gas,	12	39	3		1				2	62	2
Gasoline,	1						1			2	1
Manufacturing or storing,											
Transporting or handling,											
All others,	13	4								21	
Hot substances or flames,	162	24	20	1	5	3	1			241	3
Asphalt, pitch or tar,	1									3	
Cutting or welding (not electrical),											
Flames,	20	4	4		1	1	1			34	2
Hot water,	12	13	11	1		1				45	
Molten metal—explosion of,	3									3	
Molten metal or slag (all others),	80	1	2		1					84	1
Other hot substances (scalds),	29	6	3		3					53	
All others,	16									16	
Conflagration,	1					1				3	
Falling Objects.											
Total,	259	769	47	2	41		8	2	3	1,235	80
Rock and earth,	9	131	3		2		1			166	6
Collapse of buildings or walls,		2							1	6	2
Collapse of scaffolds or stagings,	2	1	3		1				2	18	3
Collapse of piled up material,	21	3	1		3		2	1		39	2
Fall of roof (mines),	5	560	3		1		1			574	59
Objects dropped by other persons,	28	10	11		9					66	

Objects falling from trucks or vehicles (not loading or unloading),	28	15	10	1	3					67	1
Objects falling from buildings, trestles or scaffolds,	108	31	10	1	18		3	1		197	5
All others,	58	16	6		4		1			102	2
Fall of Persons.											
Total,	173	131	66		63	7	42	6	12	744	16
From ladder,	20	5	6		13		2	1		79	3
From scaffolds or platforms,	14	9	5		4	1	3	3		84	4
From vehicles,	7	11	7		9		12		3	75	4
From structures in course of erection,	2	1			3		1			21	1
From structures (all others),	5	1	3		4		1		1	29	
From other elevations,	12	10	4		4		4	1		48	1
Into excavations,	4	2	2							11	
Into other openings,	16	3	4		2	1	2			43	1
On level,	75	78	32		20	3	14	1	6	293	2
Stairways,	7	4	1		3	2	2		2	36	
All others,	11	7	2		1		1			25	
Handling of Tools or Objects.											
Total,	518	409	124	1	64	13	25	8	5	1,439	9
Carrying or lifting objects (not loading or unloading),	233	193	49		25	4	7	3	1	633	6
Chipping or grinding,	36	34	2		2				1	80	
Handling of sharp objects,	41	17	6	1	4	6	5	1	1	114	1
Loading or unloading,	43	31	15		16		5	3	1	154	1
Tools in hands of injured persons,	138	127	43		13	3	6	1	1	400	1
Tools in hands of fellow workmen,	24	7	9		3		2			54	
All others,	3				1					4	
Power Vehicles.											
Total,	108	576	103		26	1	12	7	6	910	66
Collisions,	3	22	9		1				1	38	6
Coupling or uncoupling cars,	14	79	7						1	104	2
Defective equipment,			2							4	2
Derailment—replacing cars,	3	99	1		1					106	3
Fell from, over or into,	11	45	34		2		1		2	100	8
Improperly loaded ladles or cars,	1	1								3	
Loading or unloading material,	29	63	15		8		1	1		135	1
Not on track,	13	7	7		6		3	2	2	56	4
Struck by car or engine,	21	177	23		8	1	7	4		258	32
Struck by overhead or side obstruction,	5	55	5							69	7
Sudden starting or stopping,	2	2								4	1
All others,	6	26								33	
Stepping on Sharp Objects.											
Total,	6	12	3				1			38	1

TABLE COVERING COMPENSABLE ACCIDENTS FOR MAY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Nails,	4	11	3				1			32	1
All others,	2	1								6	
Running Into or Striking Against Objects.											
Total,	39	57	11		5	1	1			144	
Poisonous Substances.											
Total,	4	2	2							8	1
Miscellaneous.											
Total,	113	134	28	1	40	4	11	2	3	401	20
Acids and liquids,	8	3	1							22	1
Animals,	2	38	2		13		2	2		68	4
Asphyxiation or suffocation,		1	1							4	2
Doors, windows or gates (Exclusive of elevator gates),	14	13	6		2		2			46	
Drowning,					1					5	4
Flying objects (Not from machines, tools or explosives),	51	47	8		9		3			129	
Frost bites,											
Heat prostrations,	1									1	
Intentional violence,	1	1	1			1			2	7	1
Lightning,	2	2	1		1					6	1
All others,	34	29	8	1	14	3	4		1	113	7
Nature of Injury.											
Total,	1,922	2,309	448	5	298	30	118	29	34	6,296	247
Burns and scalds,	228	83	38	1	9	3	2		2	415	

Crushes and bruises,	727	1,044	185	2	112	4	47	16	16	2,575
Cuts and lacerations,	417	561	84	1	51	7	23	3	3	1,367
Fractures, sprains and dislocations,	417	533	111	1	110	9	35	9	10	1,545
Hernia,	51	26	10		7	3	3	1	1	126
Blood poisoning,	44	26	8		6	2	3		1	124
Punctures,	20	20	4				1			65
Unclassified,	18	16	8		3	2	4		1	79
Loss of Parts.										
Total,	55	41	14		4		1			142
Eyes,	19	23	5		2					57
Arms,	1	1								3
Hands,	5	4	1		1					23
Fingers,	21	3			1		1			31
Legs,	4	4	2							11
Feet,	4	5	6							15
Toes,	1	1								2
Social Condition.										
Total,										
Married,	1,135	1,430	297	2	152	12	62	15	27	3,735
Single,	588	757	126	1	96	12	33	10	7	1,987
Not given,	199	122	25	2	59	6	23	4		574
Compensation.										
Amount paid—Disability cases,	124,060	173,318	29,346	119	16,894	1,116	4,823	1,003	2,136	431,159
Fatal cases—Amount paid and awarded,	75,951	264,942	58,181		27,563	2,741	4,237	1,600	16,262	520,269
Estimated medical cost,										
Total,										
Degree.										
Fatal,	48	111	25		11	1	1	1	6	247
Serious,	1,874	2,198	423	5	287	29	117	28	28	6,049
Sex.										
Male,	1,900	2,308	446	3	289	23	110	29	33	6,195
Female,	22	1	2	2	9	7	8		1	101
Number of dependents,	1,727	1,479	337		186	11	59	19	20	4,611
Total number of accidents,	1,922	2,309	448	5	298	30	118	29	34	6,296

TABLE COVERING COMPENSABLE ACCIDENTS FOR JUNE, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	35	10	17	19	19	15	4	38	23	29	4
Boilers and steam pipes,	1										
Boiler explosions,	1										
Prime movers—Stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	5	1		2	2	1		1	3	1	
Belts and pulleys,	1	1			2	1		1		1	
Chains and sprockets,	2										
Cogs, gears, etc.,	1			1							
Fly wheels,											
Operating or repairing apparatus (Electrical),											
Operating or repairing apparatus (Not electrical),											
Ropes, cables and drums,	1			1					1		
Set screws, keys and bolts,									1		
Shafts and couplings,											
Unguarded or uncovered switches,									1		
All others,											
Elevators,	6	2	5	1	1	1		1	1	2	
Cable breaking,			1					1	1		
Cable unwinding,				1							
Cable—caught by,		1	2							1	
Car—caught by,	1		1		1	1					
Car—struck by,											

Counterweight—struck by,											
Defective equipment,										1	
Entering or leaving car,	1										
Fall of car,	3										
Fall of person,											
Falling objects,		1	1								
All others,	1										
Cranes, hoisting apparatus, etc.,	14	1					1	1			
Cable catching person,	1										
Car striking person,											
Cleaning, oiling or repairing,											
Falling objects (other than load),		1						1			
Falls from,	1										
Load falling,	5										
Run over by,											
Struck by load or tackle (not falling),	6										
All others,	1						1				
Working machines,	9	6	12	16	16	13	3	35	19	26	4
Adjusting machine or work,				3	1		1		5	2	
Breaking of machine or work,			2								
Cleaning,				1	3					6	
Emery wheels (bursting),											
Flying objects,		1	1					1		1	
Oiling,			1	1	1		1	3			
Operating or feeding,	2	3	7	9	6	11	1	23	10	9	3
Repairing,		1	1	1				1	1	1	
Saws,								5	1	1	
Starting or stopping,	5	1			5	1		1	2	4	1
All others,	2	1		1		1		1		2	
Explosives, Electricity, Fires, Hot and Corrosive Substances.											
Total,	12	38	8	1	1	4		1		5	1
Corrosive, substances,											
Electricity,			1								
Cutting or welding,											
Explosives,	2	27	2								
Acetylene,											
Carbon dioxide,											
Compressed air,											

TABLE COVERING COMPENSABLE ACCIDENTS FOR JUNE, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Dust,											
Dynamite, powder or nitro-glycerine,	2	26	1								
Gas,			1								
Gasoline,		1									
Manufacturing or storing,											
Transporting or handling,											
All others,											
Hot substances or flames,	10	11	5	1	1	4		1		5	1
Asphalt, pitch or tar,	1										
Cutting or welding (not electrical),											
Flames,	2	3			1					1	
Hot water,	2	4		1		3		1		2	
Molten metal—explosion of,			1								
Molten metal or slag (all others),	1	1									
Other hot substances (scalds),	4	3	4			1				2	1
All others,											
Conflagration,											
Falling Objects.											
Total,	43	4	29		6	2	1	10	5	4	
Rock and earth,	7		10					1			
Collapse of buildings or walls,	1		2								
Collapse of scaffolds or stagings,	5					1		1			
Collapse of piled up material,	3		1						1		
Fall of roof (mines),	2										
Objects dropped by other persons,	3		4		1			1			

Objects falling from trucks or vehicles (not loading or unloading),	1	1	4		1						
Objects falling from buildings, trestles or scaffolds,	19	2	6		4	1	1	4	4	2	
All others,	2	1	2					3		2	
Fall of Persons.											
Total,	86	16	16	10	20	2	6	17	8	14	3
From ladder,	8	1	3	1	3			3		2	1
From scaffolds or platforms,	23	2	2					3	1	1	
From vehicles,	11	1	1		3		5	3	1		
From structures in course of erection,	15	1									
From structures (all others),	5	2	1	1	2						
From other elevations,	1	4	2	3	1		1	1			
Into excavations,	2										
Into other openings,	4	2	1	1				1		2	
On level,	10	2	6	3	9	2		5	4	6	2
Stairways,	5	1		1	1			1	2	3	
All others,	2				1						
Handling of Tools or Objects.											
Total,	72	17	32	6	21	5	10	29	12	16	2
Carrying or lifting objects (not loading or unloading),	34	10	18	1	8	1	5	13	4	5	
Chipping or grinding,	3									1	
Handling of sharp objects,	5		8		2	1	2		3	5	1
Loading or unloading,	9	2	2		2		2	4	3	2	
Tools in hands of injured persons,	16	5	4	5	9	2	1	10	2	3	1
Tools in hands of fellow workmen,	5					1		2			
All others,											
Power Vehicles.											
Total,	28	10	21		3		3	11	2	2	1
Collisions,											
Coupling or uncoupling cars,	2		2								
Defective equipment,											
Derailment—replacing cars,	1		1					1			
Fell from, over or into,	3	2	2					2			
Improperly loaded ladles or cars,											
Loading or unloading material,	9	3	9		1		2	4			
Not on track,	4	3			2		1	2		2	1
Struck by car or engine,	5	1	6								
Struck by overhead or side obstruction,	2							2	2		
Sudden starting or stopping,											
All others,	2	1	1								
Stepping on Sharp Objects.											
Total,	4	1		1		1			2	1	

TABLE COVERING COMPENSABLE ACCIDENTS FOR JUNE, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Nails,	4	1		1		1			2		
All others,										1	
Running Into or Striking Against Objects.											
Total,	5		4	2	3			4	1	3	1
Poisonous Substances.											
Total,						1				1	
Miscellaneous.											
Total,	14	20	9	1	4	2	4	10	1	5	
Acids and liquids,	1	5									
Animals,	2	2	1		1		2	4		1	
Asphyxiation or suffocation,											
Doors, windows or gates (Exclusive of elevator gates),	1	1	1			1			1	2	
Drowning,											
Flying objects (Not from machines, tools or explosives),	5	3	4				2	3		2	
Frost bites,											
Heat prostrations,			1								
Intentional violence,											
Lightning,	1										
All others,	4	9	2	1	3	1		3			
Nature of Injury.											
Total,	299	116	136	40	77	32	28	120	54	80	12
Burns and scalds,	11	16	8			5		3		4	2

Crushes and bruises,	105	22	58	14	27	13	12	42	25	28	4
Cuts and lacerations,	53	12	29	13	12	2	7	42	11	24	1
Fractures, sprains and dislocations,	106	31	33	8	26	7	7	27	13	16	2
Hernia,	7	1	2	1	2		1		2	1	1
Blood poisoning,	5	4	2	3	5	3		3	1	3	1
Punctures,	5	2		1	1	1		1	2	1	
Unclassified,	7	28	4		4	1	1	2		3	
Loss of Parts.											
Total,	10	1	2		5	1	1	5	1	3	
Eyes,	6				1		1	1			
Arms,											
Hands,					1	1		2		2	
Fingers,								2	1	1	
Legs,	2										
Feet,	2	1	2								
Toes,					3						
Social Condition.											
Total,	299	116	136	40	77	32	28	120	54	80	12
Married,	167	70	83	14	42	17	19	69	26	40	3
Single,	78	36	42	18	25	13	8	38	20	33	8
Not given,	54	10	11	8	10	2	1	13	8	7	1
Compensation.											
Amount paid—Disability cases,	35,868	5,334	8,249	1,250	6,462	1,531	2,511	8,278	2,013	5,976	154
Fatal cases—Amount paid and awarded,	34,829	89,488	6,067		1,794			943		1,973	
Estimated medical cost,											
Total,											
Degree.											
Fatal,	14	31	2		1			5		2	
Serious,	285	85	134	40	76	32	28	115	54	78	12
Sex.											
Male,	299	113	136	29	76	30	28	120	50	63	9
Female,		3		11	1	2			4	17	3
Number of dependents,	196	96	130	27	47	28	26	67	22	28	
Total number of accidents,	299	116	136	40	77	32	28	120	54	80	12

TABLE COVERING COMPENSABLE ACCIDENTS FOR JUNE, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Machinery.											
Total,	474	85	32	1	42	4	18	5	3	877	31
Boilers and steam pipes,	8	1							2	12	1
Boiler explosions,	8	1							2	12	1
Prime movers—Stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	25	33	6		3			1		84	6
Belts and pulleys,	4	11	1							23	2
Chains and sprockets,	11	5	2							20	2
Cogs, gears, etc.,	2	3	1		1					9	2
Fly wheels,											1
Operating or repairing apparatus (Electrical),		1								1	
Operating or repairing apparatus (Non-electrical),	1									1	
Ropes, cables and drums,		13	1		2					19	
Set screws, keys and bolts,	3							1		4	
Shafts and couplings,	1		1							3	
Unguarded or uncovered switches,											
All others,	3									4	
Elevators,	24	7	4		3	2	4	2	1	67	7
Cable breaking,	4				1					8	1
Cable unwinding,	2		2				1			6	
Cable—caught by,	6				1	1			1	13	1
Car—caught by,	2	1	1			1	2	1		12	4
Car—struck by,		2								2	

Counterweight—struck by,											
Defective equipment,										1	
Entering or leaving car,	1	1								3	
Fall of car,	3	2	1					1		10	
Fall of person,	3	1			1					5	1
Falling objects,	2									4	
All others,	1						1			3	
Cranes, hoisting apparatus, etc.,	113	6	6		11		1			154	14
Cable catching person,	14				2					17	2
Car striking person,	10				2					12	5
Cleaning, oiling or repairing,											
Falling objects (other than load),	7				2		1			12	1
Falls from,	8	2								11	
Load falling,	30	1	2		2					40	3
Run over by,	1									1	
Struck by load or tackle (not falling),	37	3	4		3					53	2
All others,	6									8	1
Working machines,	304	38	16	1	25	2	13	2		560	3
Adjusting machine or work,	30	4	1		3		1			51	
Breaking of machine or work,	18	1			1					22	
Cleaning,	16	1			1					28	
Emery wheels (bursting),	2									2	
Flying objects,	30	6	4		1		1			46	1
Oiling,	11	1			1					20	1
Operating or feeding,	151	11	8	1	11	2	4			272	
Repairing,	12	4								21	
Saws,	4	2	1		3					17	1
Starting or stopping,	16	3	2		4		7	2		54	
All others,	14	5								27	
Explosives, Electricity, Fires. Hot and Corrosive Substances.											
Total,	184	119	33		4	5			3	419	56
Corrosive, substances,											
Electricity,	7	10	11						1	30	8
Cutting or welding,											
Explosives,	24	88	2						1	146	38
Acetylene,											
Carbon dioxide,											
Compressed air,			1							1	

TABLE COVERING COMPENSABLE ACCIDENTS FOR JUNE, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Dust,											
Dynamite, powder or nitro-glycerine,	4	40								73	30
Gas,	6	46	1						1	55	5
Gasoline,	3									4	
Manufacturing or storing,	11									11	
Transporting or handling,											
All others,		2								2	3
Hot substances or flames,	153	21	20		4	5			1	243	10
Asphalt, pitch or tar,										1	
Cutting or welding (not electrical),	1									1	
Flames,	18	8	2			2			1	38	4
Hot water,	11	10	8		1	3				46	2
Molten metal—explosion of,	3									4	1
Molten metal or slag (all others),	79	1	3							85	2
Other hot substances (scalds),	32	2	7		3					59	1
All others,	9									9	
Conflagration,											
Falling Objects.											
Total,	259	599	30		34		5	2	5	1,038	68
Rock and earth,	1	83			2					104	5
Collapse of buildings or walls,									2	5	1
Collapse of scaffolds or stagings,	2	2	1		1					13	
Collapse of piled up material,	23	1	1		4			1	1	36	1
Fall of roof (mines),	3	451			1					457	50
Objects dropped by other persons,	29	4	3							45	1

Objects falling from trucks or vehicles (not loading or unloading),	33	8	6		5		1			60	1
Objects falling from buildings, trestles or scaffolds,	127	33	17		20		3		2	245	8
All others,	41	17	2		1		1	1		73	1
Fall of Persons.											
Total,	121	93	71	7	69	15	26	2	8	610	20
From ladder,	17	1	8	1	8	1	5			63	4
From scaffolds or platforms,	18	7	3		5	1	2	1		69	4
From vehicles,	4	6	6		16	1	11		2	71	2
From structures in course of erection,		1	1		1					19	1
From structures (all others),	3				1	1	1			17	1
From other elevations,	6	6	9		5				1	40	3
Into excavations,	1	1	2							6	
Into other openings,	15	8	12	1	6	1		1	1	56	3
On level,	49	59	24	2	24	6	6		4	223	1
Stairways,	6	3	5	1	3	3	1			36	1
All others,	2	1	1	2		1				10	
Handling of Tools or Objects.											
Total,	450	354	134	3	70	10	21	5	8	1,287	9
Carrying or lifting objects (not loading or unloading),	228	165	49	2	1	4	12	1	3	564	1
Chipping or grinding,	26	31	5		32					98	
Handling of sharp objects,	34	22	3		6	3	5			100	4
Loading or unloading,	40	27	20	1	9	2	7	2	3	137	2
Tools in hands of injured persons,	104	99	47		14	1	6	2	2	333	2
Tools in hands of fellow workmen,	18	8	10		8		1			53	
All others,		2								2	
Power Vehicles.											
Total,	99	448	95		31		16	3	12	785	50
Collisions,	5	18	5				1	1	1	31	5
Coupling or uncoupling cars,	17	52	5		1					79	1
Defective equipment,											
Derailment—replacing cars,	2	88	4							97	6
Fell from, over or into,	13	33	33		5		2		3	98	9
Improperly loaded ladles or cars,		1								1	
Loading or unloading material,	31	62	11		5				1	138	1
Not on track,	12	4	11		11		11	2	6	72	2
Struck by car or engine,	13	135	19		9		1			189	25
Struck by overhead or side obstruction,	4	35	3							48	1
Sudden starting or stopping,		2	3						1	6	
All others,	2	18	1				1			26	
Stepping on Sharp Objects.											
Total,	5	10	1		2		3			31	1

TABLE COVERING COMPENSABLE ACCIDENTS FOR JUNE, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Nails,	4	9	1		2		2			27	1
All others,	1	1					1			4	
Running Into or Striking Against Objects. Total,	40	31	9		11	3	8		3	128	1
Poisonous Substances. Total,	2	1			1				2	8	
Miscellaneous. Total,	84	101	30		25	4	16		7	337	19
Acids and liquids,	8	6								20	1
Animals,	1	27	3		8		8		5	65	1
Asphyxiation or suffocation,	1	2				1				4	2
Doors, windows or gates (Exclusive of elevator gates),	6	18	7		1		3			42	
Drowning,		1	1						1	3	2
Flying objects (Not from machines, tools or explosives),	45	32	12		9		1			118	6
Frost bites,											
Heat prostrations,										1	1
Intentional violence,	3		2			2			1	8	1
Lightning,	2									3	1
All others,	18	15	5		7	1	4			73	4
Nature of injury, Total,	1,718	1,841	435	11	289	41	123	17	51	5,520	255
Burns and scalds,	213	82	28	1	6	5	1		4	390	

Crushes and bruises,	638	804	170	5	112	9	41	4	20	2,153
Cuts and lacerations,	411	456	78	1	40	8	22	4	5	1,231
Fractures, sprains and dislocations,	351	401	126	4	95	15	45	8	17	1,338
Hernia,	32	24	16		12	2	1		2	107
Blood poisoning,	35	20	3		12	1	6		1	108
Punctures,	22	18	3		2	1	4			64
Unclassified,	16	36	11		10		3	1	2	129
Loss of Parts.										
Total,	51	46	9		3		1			139
Eyes,	18	20	3							50
Arms,	5	1								6
Hands,	4	5	1		3					19
Fingers,	19	11	1							35
Legs,	2	2	2				1			9
Feet,	2	4								11
Toes,	1	3	2							9
Social Condition.										
Total,	1,718	1,841	435	11	289	41	123	17	51	5,520
Married,	1,020	1,149	267	7	172	16	51	12	35	3,279
Single,	565	622	133	2	75	16	48	2	9	1,791
Not given,	133	70	35	2	42	9	24	3	7	450
Compensation.										
Amount paid—Disability cases,	114,780	136,206	29,148	370	19,732	1,930	5,705	1,246	3,760	390,503
Fatal cases—Amount paid and awarded,	141,875	264,535	40,038		31,251	900	1,000	100	7,405	622,198
Estimated medical cost,										
Total,										
Degree.										
Fatal,	51	101	21		18	3	1	1	4	255
Serious,	1,667	1,740	414	11	271	38	122	16	47	5,265
Sex.										
Male,	1,704	1,839	427	9	275	31	114	17	50	5,419
Female,	14	2	8	2	14	10	9		1	101
Number of dependents,	1,705	1,223	358	15	176	13	57	16	16	4,246
Total number of accidents,	1,718	1,841	435	11	289	41	123	17	51	5,520

TABLE COVERING COMPENSABLE ACCIDENTS FOR JULY, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	33	9	18	13	29	16	7	53	34	26	3
Boilers and steam pipes,											
Boiler explosions,											
Prime movers—Stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	4	3	1	2	2				2	3	
Belts and pulleys,		2		2	2				1	2	
Chains and sprockets,	1										
Cogs, gears, etc.,	1	1								1	
Fly wheels,											
Operating or repairing apparatus (Electrical),											
Operating or repairing apparatus (Not electrical),											
Ropes, cables and drums,	1								1		
Set screws, keys and bolts,											
Shafts and couplings,			1								
Unguarded or uncovered switches,											
All others,	1										
Elevators,	4	2	1		4		1	1	2	2	
Cable breaking,	2	1									
Cable unwinding,											
Cable—caught by,					1		1	1			
Car—caught by,	1		1		1				2	2	
Car—struck by,					1						

Counterweight—struck by,												
Defective equipment,		1										
Entering or leaving car,												
Fall of car,	1											
Fall of person,												
Falling objects,												
All others,					1							
Cranes, hoisting apparatus, etc.,	13		3		2					1	2	
Cable catching person,			1		1							
Car striking person,	3		1									
Cleaning, oiling or repairing,											1	
Falling objects (other than load),	1											
Falls from,												
Load falling,	2										1	
Run over by,												
Struck by load or tackle (not falling),	7											
All others,			1		1					1		
Working machines.	12	4	13	11	21	16	6	52	29	19	3	
Adjusting machine or work,	1			1	3	1				1		
Breaking of machine or work,	1						1					
Cleaning,			1	1	5				4	6		
Emery wheels (bursting),												
Flying objects,	1	1		1				7		2		
Oiling,			1					1		1		
Operating or feeding,	4	1	9	6	12	13	2	35	23	5	3	
Repairing,	1	1	1				1	1	1			
Saws,				1				4				
Starting or stopping,	4	1	1	1	1	1	2	2		2		
All others,						1		2	1	2		
Explosives, Electricity, Fires. Hot and Corrosive Substances.												
Total,	10	61	3	1	2	2	1	3	5	5		
Corrosive, substances,												
Electricity,	1		1									
Cutting or welding,												
Explosives,		58	2						1	1		
Acetylene,			1									
Carbon dioxide,												
Compressed air,												

TABLE COVERING COMPENSABLE ACCIDENTS FOR JULY, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Dust,									1		
Dynamite, powder or nitro-glycerine,		55	1								
Gas,		1								1	
Gasoline,											
Manufacturing or storing,											
Transporting or handling,											
All others,		2									
Hot substances or flames,	9	3		1	2	2	1	3	4	4	
Asphalt, pitch or tar,	1				1	1					
Cutting or welding (not electrical),											
Flames,	2					1		1			
Hot water,	1	2		1	1		1	2	2	4	
Molten metal—explosion of,											
Molten metal or slag (all others),	1								1		
Other hot substances (scalds),	4	1							1		
All others,											
Conflagration,											
Falling Objects.											
Total,	47	5	32	2	6	3	1	8	3	2	
Rock and earth,	5	1	8		1						
Collapse of buildings or walls,			4								
Collapse of scaffolds or stagings,	7										
Collapse of piled up material,	4		1					2			
Fall of roof (mines),	3		3						1		
Objects dropped by other persons,	6		1		2	1		1			

Objects falling from trucks or vehicles (not loading or unloading),	2	1	1				1					
Objects falling from buildings, trestles or scaffolds,	16	2	12	1	2	1		2	2	2		
All others,	4	1	2	1	1	1		3				
Fall of Persons.												
Total,	95	19	12	8	22	7	7	17	6	12	2	
From ladder,	15		1		2	1		1		2	1	
From scaffolds or platforms,	25	5	2				1	1	1			
From vehicles,	10				8		2	5		1	1	
From structures in course of erection,	16	1			1							
From structures (all others),	4		2	1	1	1				1		
From other elevations,	3	2	2					2				
Into excavations,	3							1				
Into other openings,	1	2	1		1	2		1		2		
On level,	16	8	3	4	8	3	2	4	3	5		
Stairways,	2	1		3	1		2	2	2	1		
All others,			1									
Handling of Tools or Objects.												
Total,	86	29	46	9	27	5	10	39	8	12	2	
Carrying or lifting objects (not loading or unloading),	46	13	14	2	9	3	6	10	7	6	1	
Chipping or grinding,	2		2		1	1		1				
Handling of sharp objects,	7	3	18	5	2	1	3	4		1	1	
Loading or unloading,	9	1	2		5			8				
Tools in hands of injured persons,	19	10	8	2	10		1	16		3		
Tools in hands of fellow workmen,	2	2	2						1	2		
All others,	1											
Power Vehicles.												
Total,	34	8	14		13	2	3	8	6		1	
Collisions,	1					1			1			
Coupling or uncoupling cars,	2		1									
Defective equipment,												
Derailment—replacing cars,	1	1			1							
Fell from, over or into,	2	3	1		1				1			
Improperly loaded ladles or cars,												
Loading or unloading material,	4	1	5		1		1	2	2			
Not on track,	11	3	3		4		1	2	2			
Struck by car or engine,	10		2		6	1	1	2			1	
Struck by overhead or side obstruction,	2		2					2				
Sudden starting or stopping,												
All others,	1											
Stepping on Sharp Objects.												
Total,	11		2	1	1	1					1	

TABLE COVERING COMPENSABLE ACCIDENTS FOR JULY, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Nails,	9		1	1	1	1					1
All others,	2		1								
Running Into or Striking Against Objects.											
Total,	8	3	2		6	3		5	2	6	1
Poisonous Substances.											
Total,											
Miscellaneous.											
Total,	22	13	9	2	8		1	3	3	5	
Acids and liquids,	2	8	2								
Animals,	4	1			5			1			
Asphyxiation or suffocation,		1									
Doors, windows or gates (Exclusive of elevator gates),	1		3	2	1					3	
Drowning,	2										
Flying objects (Not from machines, tools or explosives),	6	1	3				1		2		
Frost bites,											
Heat prostrations,					1						
Intentional violence,	1									1	
Lightning,			1		1						
All others,	6	2						2	1	1	
Nature of Injury.											
Total,	346	147	138	36	114	39	30	136	67	68	10
Burns and scalds,	13	20	4	1	2	2	1	3	5	6	

Crushes and bruises,	139	36	47	12	45	13	11	47	28	26	2
Cuts and lacerations,	50	27	42	11	25	9	5	45	17	14	1
Fractures, sprains and dislocations,	107	30	33	6	36	12	10	32	14	20	5
Hernia,	6	1	4		1			1	1		
Blood poisoning,	8	3	2	3	3	2	1	5	1	2	1
Punctures,	11	2	2	2		1					1
Unclassified,	12	28	4	1	2		2	3	1		
Loss of Parts.											
Total,	8	2	5		1	2	1	9	2	2	
Eyes,	2	1	1				1				
Arms,	2		1								
Hands,	1	1						1	1	1	
Fingers,	1		1		1	1		7	1	1	
Legs,	1										
Feet,	1		1			1		1			
Toes,			1								
Social Condition.											
Total,	346	147	138	36	114	39	30	136	67	68	10
Married,	207	89	81	13	62	27	21	82	29	29	3
Single,	79	46	44	22	37	9	5	41	29	33	6
Not given,	60	12	13	1	15	3	4	13	9	6	1
Compensation.											
Amount paid—Disability cases,	31,547	7,204	9,732	774	4,312	2,584	1,771	8,258	4,290	4,397	208
Fatal cases—Amount paid and awarded,	39,582	74,171	19,266		1,201		5,685	3,134	2,765	4,510	
Estimated medical cost,											
Total,											
Degree.											
Fatal,	17	24	4		1		1	1	2	4	
Serious,	329	123	134	36	113	39	29	135	65	64	10
Sex.											
Male,	346	143	135	28	109	38	30	136	60	52	6
Female,		4	3	8	5	1			7	16	4
Number of dependents,	220	131	142	19	96	49	25	81	33	28	2
Total number of accidents,	346	147	138	36	114	39	30	136	67	68	10

TABLE COVERING COMPENSABLE ACCIDENTS FOR JULY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	474	85	44	2	29	4	12	1	7	899	27
Boilers and steam pipes,	2	3					1			6	3
Boiler explosions,	2	3					1			6	3
Prime movers—Stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	35	28	2				1		1	84	5
Belts and pulleys,	15	4								28	1
Chains and sprockets,	10	8								19	1
Cogs, gears, etc.,	5	2	1				1		1	13	2
Fly wheels,	1									1	
Operating or repairing apparatus (Electrical),											
Operating or repairing apparatus (Not electrical),	1									1	
Ropes, cables and drums,	2	9								13	
Set screws, keys and bolts,		2	1							3	
Shafts and couplings,	1	1								3	1
Unguarded or uncovered switches,											
All others,		2								3	
Elevators,	22	12	8				3		1	63	3
Cable breaking,	3		3				1			10	
Cable unwinding,	2		1							3	
Cable—caught by,	6	6								15	
Car—caught by,	1		1				1			10	1
Car—struck by,	1	1								3	

Counterweight—struck by,			1							1	1
Defective equipment,	2									3	
Entering or leaving car,			1							1	
Fall of car,	3	5							1	10	
Fall of person,	3						1			4	
Falling objects,	1		1							2	
All others,										1	1
Cranes, hoisting apparatus, etc.,	121	3	8		7		1			161	13
Cable catching person,	24	2			1					29	1
Car striking person,	12						1			17	2
Cleaning, oiling or repairing,	3									4	1
Falling objects (other than load),	5									6	
Falls from,	1									1	
Load falling,	29		4		2					38	7
Run over by,	2									2	
Struck by load or tackle (not falling),	42	1	4		4					58	2
All others,	3									6	
Working machines,	294	39	26	2	22	4	6	1	5	585	3
Adjusting machine or work,	29	5	2		1					44	1
Breaking of machine or work,	8	2								12	
Cleaning,	11		1			1				30	
Emery wheels (bursting),	1									1	
Flying objects,	44	4	3						1	64	1
Oiling,	4	2								9	
Operating or feeding,	153	15	13		15	1				310	1
Repairing,	10	3	1		1					21	
Saws,	6	1	1		2					15	
Starting or stopping,	22	1	5	2	2	2	6	1	3	59	
All others,	6	6			1				1	20	
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	175	127	26		11	1			1	434	58
Corrosive substances,											
Electricity,	9	11	8		1					31	10
Cutting or welding,											
Explosives,	12	95	3		3					175	41
Acetylene,										1	
Carbon dioxide,	1	2								3	
Compressed air,											

TABLE COVERING COMPENSABLE ACCIDENTS FOR JULY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Dust,	1									2	1
Dynamite, powder or nitro-glycerine,	2	49	1							108	35
Gas,	4	42								48	4
Gasoline,		2	2							4	
Manufacturing or storing,											
Transporting or handling,											
All others,	4				3					9	1
Hot substances or flames,	154	21	15		7	1			1	228	7
Asphalt, pitch or tar,					1					4	
Cutting or welding (not electrical),											
Flames,	13	4	2		3					26	3
Hot water,	19	13	7		1				1	55	
Molten metal—explosion of,	7									7	1
Molten metal or slag (all others),	79									81	2
Other hot substances (scalds),	28	4	6		2	1				47	1
All others,	8									8	
Conflagration,											
Falling Objects.											
Total,	258	669	39		34		7	3	7	1,126	72
Rock and earth,	2	82	2		2				4	107	3
Collapse of buildings or walls,	1		1		1				1	8	4
Collapse of scaffolds or stagings,	4		1		2					14	1
Collapse of piled up material,	28	1	1				2			39	2
Fall of roof (mines),	5	519								531	51
Objects dropped by other persons,	25	5	6		3		1			51	1

Objects falling from trucks or vehicles (not loading or unloading),	33	7	5		1		1			52	2
Objects falling from buildings, trestles or scaffolds,	122	38	20		23		3	2	1	249	6
All others,	38	17	3		2			1	1	75	2
Fall of Persons.											
Total,	143	105	60	1	69	14	23	7	10	639	20
From ladder,	6	4	4		8	1	3	1		50	1
From scaffolds or platforms,	17	5	2		10		1			70	3
From vehicles,	4	8	3		8	1	8	1	3	63	
From structures in course of erection,		2			6					26	4
From structures (all others),	1	3	2		2			1	1	20	1
From other elevations,	21	10	13		9	2	2	1	1	68	7
Into excavations,	3	1	1							9	
Into other openings,	10	6	7		4	2	1	1		41	2
On level,	71	64	23	1	18	4	6	1	4	248	2
Stairways,	7	1	2		4	4	2	1		35	
All others,	3	1	3						1	9	
Handling of Tools or Objects.											
Total,	480	363	117	2	56	14	17	10	5	1,337	9
Carrying or lifting objects (not loading or unloading),	252	165	48		23	5	6	2	2	620	4
Chipping or grinding,	21	30	1		1					60	
Handling of sharp objects,	22	26	5		9	5	4	1	1	118	1
Loading or unloading,	43	38	12	2	5		1	5	1	132	1
Tools in hands of injured persons,	121	97	41		18	4	5	1	1	357	2
Tools in hands of fellow workmen,	19	7	9				1	1		46	1
All others,	2		1							4	
Power Vehicles.											
Total,	120	524	97		18	3	10	3	3	867	52
Collisions,	4	21	11		1					40	1
Coupling or uncoupling cars,	14	62	3		2		1			85	1
Defective equipment,		1								1	
Derailment—replacing cars,	3	92	4				1			103	5
Fell from, over or into,	17	41	31				1	1	2	101	5
Improperly loaded ladles or cars,	1	1								2	
Loading or unloading material,	37	67	13		3	1		1		138	1
Not on track,	7	1	7		5	2	5	1		54	3
Struck by car or engine,	31	161	21		6		2		1	245	32
Struck by overhead or side obstruction,	3	43	5		1					58	4
Sudden starting or stopping,		1								1	
All others,	3	33	2							39	
Stepping on Sharp Objects.											
Total,	10	8	1		4		2			42	

TABLE COVERING COMPENSABLE ACCIDENTS FOR JULY, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Fatal accidents by cause.
Nails,	6	8	1		4		2			35	
All others,	4									7	
Running Into or Striking Against Objects.											
Total,	54	51	10		8		6	1	2	168	2
Poisonous Substances.											
Total,	1	1								2	
Miscellaneous.											
Total,	99	128	33		23	3	10	4	12	378	23
Acids and liquids,	8	5	1							26	1
Animals,	3	38	3		6		4	1	3	69	1
Asphyxiation or suffocatiou,	3	2	1						1	8	2
Doors, windows or gates (Exclusive of elevator gates),	14	12	5		3	1	1	2	2	50	2
Drowning,		1	2		1					6	6
Flying objects (Not from machines, tools or explosives),	54	47	13		5					132	1
Frost bites,											
Heat prostrations,	1									2	1
Intentional violence,	3		2		1	2			5	15	3
Lightning,		3								5	
All others,	13	20	6		7		5	1	1	65	6
Nature of Injury.											
Total,	1,814	2,061	427	5	252	39	87	29	47	5,892	263
Burns and scalds,	207	92	24		12	1	1		1	395	

Crushes and bruises,	708	927	171	2	79	13	36	10	12	2,364
Cuts and lacerations,	456	459	79	1	44	10	12	5	12	1,324
Fractures, sprains and dislocations,	357	471	122	2	82	13	28	12	17	1,409
Hernia,	25	26	10		5	2	2		1	85
Blood poisoning,	33	30	6		14		3	1		118
Punctures,	17	20	5		6		2			69
Unclassified,	11	36	10		10		3	1	4	128
Loss of Parts.										
Total,	63	40	9		4		2		4	154
Eyes,	23	17	4						2	51
Arms,	1	4			1					9
Hands,	6	3	1		3		2			20
Fingers,	24	8								45
Legs,	4	1	4						2	12
Feet,	5	7								16
Toes,										1
Social Condition.										
Total,	1,814	2,061	427	5	252	39	87	29	47	5,892
Married,	1,105	1,293	285	2	133	23	40	21	32	3,577
Single,	554	673	124	3	80	7	33	7	10	1,842
Not given,	155	95	18		39	9	14	1	5	473
Compensation.										
Amount paid—Disability cases,	116,739	146,761	32,387	78	17,839	1,024	7,264	1,131	8,643	406,943
Fatal cases—Amount paid and awarded,	90,702	305,020	53,795		30,457	1,300	800		5,808	638,196
Estimated medical cost,										
Total,										
Degree.										
Fatal,	54	108	28		13	1	2		3	263
Serious,	1,760	1,953	399	5	239	38	85	29	44	5,629
Sex.										
Male,	1,798	2,060	422	4	243	31	73	29	47	5,790
Female,	16	1	5	1	9	8	14			102
Number of dependents,	1,779	1,252	385	4	159	27	38	16	26	4,512
Total number of accidents,	1,814	2,061	427	5	252	39	87	29	47	5,892

TABLE COVERING COMPENSABLE ACCIDENTS FOR AUGUST, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	37	13	21	19	22	21	4	47	29	46	3
Boilers and steam pipes,											
Boiler explosions,											
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	1	2	3	2	2		1	1	2	4	
Belts and pulleys,	1		3	2					1	2	
Chains and sprockets,		1			2		1				
Cogs, gears, etc.,		1						1	1	2	
Fly wheels,											
Operating or repairing apparatus (electrical),											
Operating or repairing apparatus (not eelectrical),											
Ropes, cables and drums,											
Set screws, keys and bolts,											
Shafts and couplings,											
Unguarded and uncovered switches,											
All others,											
Elevators,	1	2	3	4	2	4		2	2	1	
Cable breaking,		1									
Cable unwinding,						1					
Cable—caugbt by,											
Car—caught by,			1	4		2		1			
Car—struck by,			1							1	

Counterweight—struck by,										1	
Defective equipment,											
Entering or leaving car,						1					
Fall of car,	1				2				1		
Fall of person,											
Falling objects,			1								
		1									
Cranes, hoisting apparatus, etc.,	13	2	5				1	1	1	2	
Cables catching person,	2	1	1				1		1		
Car striking person,											
Cleaning, oiling or repairing,										1	
Falling objects (other than load),	2										
Falls from,	2	1									
Load falling,	2		1							1	
Run over by,											
Struck by load or tackle (not falling),	5		3					1			
All others,											
Working machines,	22	7	10	13	18	17	2	43	24	39	3
Adjusting machine or work,	1	1		1					5	4	1
Breaking of machine or work,		2	1							1	
Cleaning,			2	1	3			1	2	6	
Emery wheels (bursting),											
Flying objects,	5							3		2	
Oiling,	1									2	1
Operating or feeding,	5	4	3	11	8	16		27	14	20	1
Repairing,					1			1		1	
Saws,	2							10	1	1	
Starting or stopping,	5		2		4	1	1	1		2	
All others,	1		2		2		1		2		
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	9	35	7	2	2	2	2	1	1	5	
Corrosive substances,											
Electricity,	1	1	1								
Cutting or welding,											
Explosives,	3	29	4				2			1	
Acetylene,											
Carbon dioxide,											
Compresseed air,											
Dust,											
Dynamitefi powder or nitro-glycerine,	1	29	3								

TABLE COVERING COMPENSABLE ACCIDENTS FOR AUGUST, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Gas.											
Gasoline,	2		1								
Manufacturing or storing,											
Transporting or handling,											
All others,											
Hot substances oro flames,							2			1	
Asphalt, pitch or tar,	5	5	2	2	2	2		1	1	3	
Cutting or welding (not electrical),	3	1									
Flames,											
Hot water,		1		1		1					
Molten metal—explosion of,	1	2	1	1	1	1				3	
Molten metal or slag (all others),	1										
Other hot substances (scalds),											
All others,		1	1		1			1	1		
Conflagration,											
Falling Objeects.											
Total,	48	7	26	1	5	2	1	12	2	1	1
Rock and earth,	4		7		1						
Collapse of buildings or walls,					1						
Colapse of scaffolds or stagings,	4										
Collapse of piled up material,	5		6					2	1		
Fall of roof (mines),	1		4								
Objects dropped by other persons,	3		3		1			2			
Objects falling from trucks or vehicles (not loading or unloading),	2		3			1	1		1	1	

Objects falling from buildings, trestles or scaffolds,	23	4	3	1	1	1		3				1
All others,	6	3			1			5				
Fall of Persons.												
Total,	94	13	13	5	12	4	2	15	8	14	1	
From ladder,	13	1		1	1		1	1	1	2		
From scaffolds or platforms,	23	2	4		1			1		1		
From vehicles,	11	1	3		5	1	1	2				
From structures in course of erection,	16								1			
From structures (all others),	6	2				1						
From other elevations,	7		2					1	1	2		
Into excavations,	1					2						
Into other openings,	6	2						1	1			
On level,	10	4	3	4	5			7	1	5	1	
Stairways,	1	1							2	3		
All others,								2	1	1		
Handling of Tools or Objects.												
Total,	65	14	48	6	19	11	6	35	9	11	2	
Carrying or lifting objects (not loading or unloading),	33	8	17	3	13	2	4	15	4	4	1	
Chipping or grinding,	2		3									
Handling of sharp objects,	4	2	16	1		4		3	2	1		
Loading or unloading,	8	1	2		2	1		4	1	1		
Tools in hands of injured person,	14	3	10	1	4	4	1	13	2	4	1	
Tools in hands of fellow workmen,	4			1						1		
All others,												
Power Vehicles.												
Total,	35	9	17		7	4	5	7	2	2		
Collisions,	3		1		1							
Coupling or uncoupling cars,	1		1									
Defective equipment,												
Derailment—replacing cars,			1									
Fell from, over or into,	3		2			2	1	1				
Improperly loaded ladles or cars,												
Loading or unloading material,	11	3	5		1		3	2	1			
Not on track,	6	2	1		2		1	2		2		
Struck by car or engine,	7	4	5		2	1		2	1			
Struck by overhead or side obstructions,	2				1							
Sudden starting or stopping,						1						
All others,	2		1									

TABLE COVERING COMPENSABLE ACCIDENTS FOR AUGUST, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Stepping on Sharp Objects.											
Total,	4	1	1							2	
Nails,	4	1								2	
All others,			1								
Running Into or Striking Against Objects.											
Total,	11	1	4	3	1			2		6	
Poisonous Substances.											
Total,	2		1					1			
Miscellaneous.											
Total,	17	13	8	3	6	1	3	6	1	2	
Acids and liquids,		4	1								
Animals,	6		1		1		3	1			
Asphyxiation or suffocation,			1								
Doors, windows or gates (exclusive of elevator gates),		2	1	2						1	
Drowning,											
Flying objects (not from machines, tools or explosives)	9	3	3					2		1	
Frost bites,											
Heat prostration,					1						
Lightning,											
All others,	2	4	1	1	4	1		3	1		
Nature of Injury.											
Total,	322	106	146	39	74	45	23	126	52	89	7

Burns and scalds,	8	13	3	2	2	2		1	2	2	
Crushes and bruises,	124	28	56	14	30	24	7	40	20	33	1
Cuts and lacerations,	57	18	42	10	16	9	6	51	15	18	3
Fractures, sprains and dislocations,	92	15	31	6	18	7	9	22	11	25	2
Hernia,	3	2	4	1	1	1		1		2	
Blood poisoning,	14	1	3	4	4	2	1	5	2	2	1
Punctures,	9	1	3	1	1				1	4	
Unclassified,	15	28	4	1	2			6	1	3	
Loss of Parts.											
Total,	6	2	1		1	3		3	6		
Eyes,	3	1	1					1			
Arms,	1								1		
Hands,						1			2		
Fingers,	1	1			1	2		2	2		
Legs,											
Feet,	1										
Toes,									1		
Social Condition.											
Total,	322	106	146	39	74	45	23	126	52	89	7
Married,	195	51	87	15	43	29	16	74	20	43	5
Single,	91	47	42	17	21	16	5	41	26	38	1
Not given,	36	8	17	7	10		2	11	6	8	1
Compensation.											
Amount paid—disability cases,	19,657	4,046	6,491	1,162	2,369	2,667	1,230	4,912	5,473	2,976	214
Fatal cases—amount paid and awarded,	43,318	30,312	11,584	2,500	10,757		2,500	6,184	8,549		
Estimated medical cost,											
Total,											
Degree.											
Fatal,	16	25	3	1	3		1	4	2		
Serious,	306	81	143	38	71	45	22	122	50	89	7
Sex.											
Male,	322	103	144	27	69	43	23	124	45	74	4
Female,		3	2	12	5	2		2	7	15	3
Number of dependents,	259	56	155	14	58	35	18	107	24	29	2
Number of dependents in fatal cases,	21	19	11		4				4		
Number of dependents in non fatal cases,	238	37	144	14	54	35	18	107	20	29	2
Total number of accidents,	322	106	146	39	74	45	23	126	52	89	7

TABLE COVERING COMPENSABLE ACCIDENTS FOR AUGUST, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	436	63	48	2	36	1	11	3	1	863	20
Boilers and steam pipes,			1							1	
Boiler explosions,			1							1	
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	33	15	4				1			71	4
Belts and pulleys,	11	3	2							25	1
Chains and sprockets,	13									17	
Cogs, gears, etc.,	7	2					1			15	
Fly wheels,											
Operating or repairing apparatus (electrical),											
Operating or repairing apparatus (not electrical),											
Ropes, cables and drums,	1	8								9	
Set screws, keys and bolts,											
Shafts and couplings,		2								2	2
Unguarded and uncovered switches,											
All others,	1		2							3	1
Elevators,	9	6	4		1	1	3			45	3
Cable breaking,	2	2	1							6	
Cable unwinding,										1	
Cable—caught by,	2				1					3	
Car—caught by,	1	2					1			12	
Car—struck by,		2					1			5	1

Counterweight—struck by,							1			2		
Defective equipment,												
Entering or leaving car,						1	1			2		
Fall of car,	2		1							7	1	
Fall of person,	1		1							2		
Falling objects,										1		
	1		1							4	1	
Cranes, hoisting apparatus, etc.,	92	5	9		10					141	8	
Cables catching person,	12	2	2							22		
Car striking person,	3	1								4		
Cleaning, oiling or repairing,	2		1							4		
Falling objects (other than load),	10				1					13	1	
Falls from,	4				2					9	1	
Load falling,	30		3		2					39	4	
Run over by,	2									2		
Struck by load or tackle (not falling),	27	1	2		5					44	2	
All others,	2	1	1							4		
Working machines,	302	37	30	2	25		7	3	1	605	5	
Adjusting machine or work,	36	3	1	1	1					57		
Breaking of machine or work,	11	2	1							18	2	
Cleaning,	15				1					31		
Emery wheels (bursting),	1									1		
Flying objects,	56	9	7		1					83		
Oiling,	3	1	1							9		
Operating or feeding,	136	10	12	1	14					282	2	
Repairing,	11	3	1							18		
Saws,	11	1	1		2					29		
Starting or stopping,	17	8	5		6		7	3	1	63		
All others,	5		1							14	1	
Explosives, Electricity, Fires, Hot or Corrosive Substances.												
Total,	147	112	25	1	11	1			1	364	52	
Corrosive substances,												
Electricity,	10	9	7		1				1	32	11	
Cutting or welding,												
Explosives,	16	89	4	1	2	1				152	26	

TABLE COVERING COMPENSABLE ACCIDENTS FOR AUGUST, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Acetylene,	1									1	
Carbon dioxide,		1								1	
Compressed air,					1					1	
Dust,	2									2	
Dynamite, powder or nitro-glycerine,	3	40	1							77	30
Gas,	5	44	3		1					56	5
Gasoline,	3	2		1						6	
Manufacturing or storing,											
Transporting or handling,											
All others,	2	2				1				8	1
Hot substances or flames,	121	14	14		8					180	5
Asphalt, pitch or tar,	1									5	
Cutting or welding (not electrical),	1									1	1
Flames,	14	4	2		5					28	1
Hot water,	16	5	10		1					41	2
Molten metal—explosion of,	8	1								10	
Molten metal or slag (all others),	61	1	1		2					65	1
Other hot substances (scalds),	16	3	1							25	
All others,											
Conflagration,	4									4	
Falling Objects.											
Total,	214	612	38	1	28	1	9	1	3	1,013	51
Rock and earth,	8	71								91	2
Collapse of buildings or walls,	1						1		1	4	
Collapse of scaffolds or stagings,	3	1	1						1	10	

Collapse of piled up material,	15	3			2					34	2
Fall of roof (mines),	2	481	2							490	43
Objects dropped by other persons,	28	2	4		3			1		47	
Objects falling from trucks or vehicles (not loading or unloading),	24	8	5		1		2			49	1
Objects falling from buildings, trestles or scaffolds,	109	32	20		20	1	5		1	225	3
All others,	24	14	6	1	2		1			63	
Fall of Persons.											
Total,	123	89	61		44	12	23	9	6	548	17
From ladder,	13	8	4		7		4		1	58	
From scaffolds or platforms,	14	8	2		9		1	1		67	4
From vehicles,	2	1	7		9		8	1	2	54	2
From structures in course of erection,					2		1			19	3
From structures (all others),	5	7	1			1				24	
From other elevations,	13	3	10		3		1	1		44	3
Into excavations,	4	4							1	12	
Into other openings,	7	55	10		3	1		2		88	3
On level,	60	1	25		9	4	4	3	2	148	2
Stairways,	2		2		1	5	4	1		22	
All otbers,	3	2			1	1				12	
Handling of Tools or Objects.											
Total,	467	320	141		43	7	21	9	7	1,241	3
Carrying or lifting objects (not loading or unloading),	240	145	55		18	2	11	8	4	587	
Chipping or grinding,	16	10	5							36	
Handling of sharp objects,	20	8	4		2		3			70	
Loading or unloading,	31	25	16		5		2	1		101	2
Tools in hands of injured person,	137	119	52		14	5	5		3	392	1
Tools in hands of fellow workmen,	22	12	9		3					52	
All others,	1	1			1					3	
Power Vehicles.											
Total,	112	479	90	1	13		14	3	7	807	61
Collisions,	3	20	9						1	38	6
Coupling or uncoupling cars,	14	50	3		1				2	72	2
Defective equipment,		1	1							2	
Derailment—replacing cars,	1	75	4		1					82	3
Fell from, over or into,	14	25	22				1		2	73	10
Improperly loaded ladles or cars,		1								1	
Loading or unloading material,	30	62	9	1	5		5	2		140	3
Not on track,	17	4	7		5		3	1		53	2
Struck by car or engine,	22	177	32		1		5		2	261	30
Struck by overhead or side obstructions,	6	44	1							51	4
Sudden starting or stopping,		2								3	
All others,	5	21	2							31	1

TABLE COVERING COMPENSABLE ACCIDENTS FOR AUGUST, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Stepping on Sharp Objects.											
Total,	6	7	1	----------	1	----------	2	----------	1	26	----------
Nails,	5	7	1	----------	1	----------	2	----------	----------	23	----------
All others,	1	----------	----------	----------	----------	----------	----------	----------	1	3	----------
Running Into or Striking Against Objects.											
Total,	46	34	7	----------	8	1	3	1	----------	128	----------
Poisonous Substances.											
Total,	----------	2	----------	----------	----------	----------	----------	----------	----------	6	----------
Miscellaneous.											
Total,	87	118	24	----------	18	1	13	4	9	334	15
Acids and liquids,	4	6	1	----------	2	----------	1	----------	----------	19	----------
Animals,	2	39	2	----------	3	----------	2	2	2	64	4
Asphyxiation or suffocation,	1	4	----------	----------	----------	----------	----------	----------	----------	6	5
Doors, windows or gates (exclusive of elevator gates),	8	8	4	----------	----------	----------	2	1	----------	29	----------
Drowning,	1	1	----------	----------	----------	----------	----------	----------	----------	1	----------
Flying objects (not from machines, tools or explosives)	45	49	9	----------	6	----------	2	----------	3	132	2
Frost bites,	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
Heat prostration,	1	----------	----------	----------	----------	----------	1	----------	----------	3	1
Intentional violence,	4	1	1	----------	----------	----------	1	----------	4	11	1
Lightning,	----------	----------	1	----------	----------	----------	1	----------	----------	2	----------
All others,	22	10	6	----------	7	1	3	1	----------	67	2
											219

Nature of Injury.										
Total,	1,638	1,836	435	5	202	24	96	30	35	5,330
Burns and scalds,	176	77	25	1	13	4			1	332
Crushes and bruises,	570	828	190	1	46	5	32	12	12	2,073
Cuts and lacerations,	458	400	83	2	58	1	14	1	5	1,267
Fractures, sprains and dislocations,	303	417	113	1	60	11	39	14	14	1,210
Hernia,	39	26	11		2	2	2	1	1	99
Blood poisoning,	39	25	2		10	1	3	1		120
Punctures,	21	18	1		3		1			64
Unclassified,	32	45	10		10		5	1	2	165
Loss of Parts.										
Total,	35	44	16		9		2		1	129
Eyes,	14	22	6		5		2		1	56
Arms,	2		1							5
Hands,	5	3	2		1					14
Fingers,	10	4			1					24
Legs,	1	6	6		1					14
Feet,	2	9	1		1					14
Toes,	1									2
Social Condition.										
Total,	1,638	1,836	435	5	202	24	96	30	35	5,330
Married,	955	1,182	295	3	103	12	54	18	27	3,227
Single,	513	565	105	2	61	5	27	8	4	1,635
Not given,	170	89	35		38	7	15	4	4	468
Compensation.										
Amount paid—disability cases,	95,974	126,885	39,101	87	20,809	1,228	5,679	249	1,836	343,045
Fatal cases—amount paid and awarded,	47,417	291,611	89,131		5,100			100	972	550,033
Estimated medical cost,										
Total,										
Degree.										
Fatal,	28	96	34		3			1	2	219
Serious,	1,610	1,740	401	5	199	24	96	29	33	5,111
Sex.										
Male,	1,624	1,836	428	5	199	19	92	30	35	5,246
Female,	14		7		3	5	4			84
Number of dependents,	1,400	1,328	392	1	139	9	41		26	4,093
Number of dependents in fatal cases,	18	124	30							231
Number of dependents in non fatal cases,	1,382	1,204	362	1	139	9	41		26	3,862
Total number of accidents,	1,638	1,836	435	5	202	24	96	30	35	5,330

TABLE COVERING COMPENSABLE ACCIDENTS FOR SEPTEMBER, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	37	17	21	19	23	14	9	52	32	39	2
Boilers and steam pipes,											
Boiler explosions,											
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	1	1	1	2	3			3	4	1	1
Belts and pulleys,			1	2					1	1	
Chains and sprockets,	1	1						1	2		
Cogs, gears, etc.,					1			1	1		1
Fly wheels,					1						
Operating or repairing apparatus (electrical),											
Operating or repairing apparatus (not electrical),											
Ropes, cables and drums,					1						
Set screws, keys and bolts,											
Shafts and couplings,								1			
Unguarded and uncovered switches,											
All others,											
Elevators,	2	4	1	1	4	1	1	1	1	6	
Cable breaking,		2									
Cable unwinding,		1									
Cable—caught by,	1			1	2	1				1	
Car—caught by,								1		2	
Car—struck by,									1	2	

Counterweight—struck by,			1								
Defective equipment,					1						
Entering or leaving car,											
Fall of car,											
Fall of person,										1	
Falling objects,	1	1					1				
					1						
Cranes, hoisting apparatus, etc.,	12	1	4		3			1	1		
Cables catching person,	2	1	1		1			1	1		
Car striking person,	1										
Cleaning, oiling or repairing,			1		1						
Falling objects (other than load),											
Falls from,	1										
Load falling,	1										
Run over by,											
Struck by load or tackle (not falling),	7				1						
All others,			2								
Working machines,	22	11	15	16	13	13	8	47	26	32	1
Adjusting machine or work,	1		2	1	1	1	1	3	4	9	
Breaking of machine or work,	3						1	1	1		
Cleaning,			1	1	1	2		5	3	5	
Emery wheels (bursting),											
Flying objects,	4	3	3			1	1	4			
Oiling,	1			1						2	
Operating or feeding,	9	4	4	11	7	9	5	23	14	13	1
Repairing,	2		1						1		
Saws,	1	2		1				11			
Starting or stopping,	1	1	3	1	3				3	3	
All others,		1	1		1						
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	18	17	9	1	5	2	2		5	1	
Corrosive substances,		3									
Electricity,	3		2	1							
Cutting or welding,											
Explosives,	2	5	3		2		2				
Acetylene,											
Carbon dioxide,											
Compresseed air,							1				
Dust,			1								
Dynamite, powder or nitro-glycerine,		3	1								

TABLE COVERING COMPENSABLE ACCIDENTS FOR SEPTEMBER, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Gas,	2	1	1								
Gasoline,					1						
Manufacturing or storing,											
Transporting or handling,											
All others,		1			1		1				
Hot substances or flames,	13	9	4		3	2			5	1	
Asphalt, pitch or tar,	4	1							1		
Cutting or welding (not electrical),											
Flames,	3	3				1					
Hot water,	2	4	1		1				1	1	
Molten metal—explosion of,											
Molten metal or slag (all others),	2	1	1								
Other hot substances (scalds),	2		2		2	1			3		
All others,											
Conflagration,											
Falling Objects.											
Total,	44	4	12		5	1	2	11	2	1	
Rock and earth,	9		3					1			
Collapse of buildings or walls,	2							1			
Collapse of scaffolds or stagings,	10				1						
Collapse of piled up material,	3							2			
Fall of roof (mines),											
Objects dropped by other persons,	6		2					1			
Objects falling from trucks or vehicles (not loading or unloading),	1		1					1			

Objects falling from buildings, trestles or scaffolds,	11	2	4		2	1	1	3	1	1	
All others,	2	2	2		2		1	2	1		
Fall of Persons.											
Total,	75	21	12	7	14	5	8	14	7	13	3
From ladder,	16	1	2	1	1		1			2	
From scaffolds or platforms,	15	7	3		3			1		2	
From vehicles,	11	3	1		3		3	3	1	1	2
From structures in course of erection,	6	1							1		
From structures (all others),	3				2			1			
From other elevations,	7	2	1				2	1	1		
Into excavations,	1										
Into other openings,	2	2	1	1	1			1	1		
On level,	12	4	3	5	3	4	1	6	2	7	1
Stairways,		1	1		1	1		1	1	1	
All others,	2						1				
Handling of Tools or Objects.											
Total,	82	21	51	6	28	15	10	34	8	6	2
Carrying or lifting objects (not loading or unloading),	40	13	23	3	12	5	5	9	3	4	
Chipping or grinding,			2								
Handling of sharp objects,	6		12	1	5	1	1	3	2		
Loading or unloading,	17	3	3		5		4	6	2		1
Tools in hands of injured person,	17	4	10	1	5	9		16	1		1
Tools in hands of fellow workmen,	1		1	1	1					2	
All others,	1	1									
Power Vehicles.											
Total,	17	9	19	1	6	1	3	10	3	4	4
Collisions,	1										1
Coupling or uncoupling cars,											
Defective equipment,			1								
Derailment—replacing cars,	1		2								
Fell from, over or into,	2		1		1			4			
Improperly loaded ladles or cars,											
Loading or unloading material,	6	3	4		1		2	5	2	2	
Not on track,	3	5	1	1	1	1		1	1	1	
Struck by car or engine,	4	1	9		3		1				3
Struck by overhead or side obstructions,										1	
Sudden starting or stopping,											
All others,			1								

TABLE COVERING COMPENSABLE ACCIDENTS FOR SEPTEMBER, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Stepping on Sharp Objects.											
Total,	10	4	1	1	1				1	1	
Nails,	9	4	1	1	1				1		
All others,	1									1	
Running Into or Striking Against Objects.											
Total,	8	1	5	1	4			2	2	3	
Poisonous Substances.											
Total,	3							1			
Miscellaneous.											
Total,	17	7	12		10	4	1	5	1	5	2
Acids and liquids,	1	1				2				1	1
Animals,	2		3		5	1		3			
Asphyxiation or suffocation,	1	1							1	1	
Doors, windows or gates (exclusive of elevator gates),		1			1					1	
Drowning,											
Flying objects (not from machines, tools or explosives)	3	2	4		1	1					
Frost bites,											
Heat prostration,	2	1	1		1		1			1	1
Intentional violence,											
Lightning,											
All others,	8	1	4		2			2		1	
Nature of Injury.											
Total,	311	101	142	36	96	42	35	129	61	73	13

Burns and scalds,	20	19	9	1	6	3		1	5	1	
Crushes and bruises,	116	34	53	13	48	19	10	40	24	34	
Cuts and lacerations,	66	15	44	14	20	9	13	47	16	19	4
Fractures, sprains and dislocations,	78	21	28	6	13	9	11	37	11	13	7
Hernia,	7	4	3		2	1		2	2	1	
Blood poisoning,	8		2		4	1		2		1	1
Punctures,	7	4	1	1	1				2	3	
Unclassified,	9	4	2	1	2		1		1	1	1
Loss of Parts.											
Total,	9	3	4	1	4	1		1	4	2	1
Eyes,	5		3	1				1		1	1
Arms,											
Hands,	2	1			2	1			1		
Fingers,					1				3		
Legs,		1									
Feet,	2	1	1		1						
Toes,											
Social Condition.											
Total,	311	101	142	36	96	42	35	129	61	73	13
Married,	170	65	80	12	53	22	21	73	28	30	11
Single,	101	29	59	21	30	17	13	43	27	37	1
Not given,	40	7	3	3	13	3	1	13	6	6	1
Compensation.											
Amount paid—disability cases,	30,193	8,916	14,943	1,950	7,281	3,250	4,298	4,706	3,607	3,068	1,853
Fatal cases—amount paid and awarded,	29,735	13,289	5,887		2,253		2,560	2,395	2,500	1,000	
Estimated medical cost,											
Total,											
Degree.											
Fatal,	11	6	2		2		1	2	1	1	
Serious,	300	95	140	36	94	42	34	127	60	72	13
Sex.											
Male,	310	100	139	23	89	40	35	124	55	61	12
Female,	1	1	3	13	7	2		5	6	12	1
Number of dependents,	216	99	129	17	45	21	32	97	30	30	17
Number of dependents in fatal cases,	8	1	2					1			
Number of dependents in serious cases,	208	98	127	17	45	21	32	96	30	30	17
Total number of accidents,	311	101	142	36	96	42	35	129	61	73	13

TABLE COVERING COMPENSABLE ACCIDENTS FOR SEPTEMBER, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	469	76	32		48	3	10	3		906	19
Boilers and steam pipes,	3	1								4	1
Boiler explosions,	3	1								4	1
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	9	10	1		5	1				43	2
Belts and pulleys,	1				2					8	
Chains and sprockets,	4									9	
Cogs, gears, etc.,	1	1			2	1				9	
Fly wheels,										1	
Operating or repairing apparatus (electrical),		1								1	
Operating or repairing apparatus (not electrical),	1									1	
Ropes, cables and drums,	1	7	1		1					11	1
Set screws, keys and bolts,											
Shafts and couplings,	1	1								3	1
Unguarded and uncovered switches,											
All others,											
Elevators,	27	5	2		3	1	3			63	2
Cable breaking,	1		1							4	
Cable unwinding,										1	
Cable—caught by,	6	1								13	1
Car—caught by,	4	2			2	1	1			13	1
Car—struck by,	4									7	

Counterweight—struck by,										1	
Defective equipment,	1									2	
Entering or leaving car,	2						1			3	
Fall of car,	3	1	1		1					7	
Fall of person,	3	1					1			8	
Falling objects,	3									3	
										1	
Cranes, hoisting apparatus, etc.,	109	15	8		12			1		167	10
Cables catching person,	16	10								33	
Car striking person,	9		2							12	
Cleaning, oiling or repairing,	2									4	1
Falling objects (other than load),	9	1			1					11	1
Falls from,	1		1		1			1		5	1
Load falling,	30	2	2		4					39	2
Run over by,	2				1					3	1
Struck by load or tackle (not falling),	32	1	3		5					49	4
All others,	8	1								11	
Working machines,	321	45	21		28	1	7	2		629	4
Adjusting machine or work,	59	5	2		1					90	
Breaking of machine or work,	13	3	1							26	
Cleaning,	11	2								31	
Emery wheels (bursting),	3									3	
Flying objects,	47	11	3		6					83	1
Oiling,	11	1								16	1
Operating or feeding,	134	13	7		14	1				269	1
Repairing,	12	2	3							21	
Saws,	7				1					23	
Starting or stopping,	20	2	2		6		7	2		54	
All others,	4	6								13	1
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	174	88	25		9	2	3	2	8	371	23
Corrosive substances,	1				1				1	6	
Electricity,	8	12	8		1					35	10
Cutting or welding,											
Explosives,	20	72			1		1	1	3	114	10

TABLE COVERING COMPENSABLE ACCIDENTS FOR SEPTEMBER, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Acetylene,											
Carbon dioxide,		1								2	
Compressed air,											
Dust,	1	1								3	
Dynamite, powder or nitro-glycerine,	3	29							1	37	5
Gas,	6	37							3	50	4
Gasoline,	2	2			1		1	1	1	9	1
Manufacturing or storing,											
Transporting or handling,											
All others,	8	2								13	
Hot substances or flames,	145	4	17		6	2	2	1	2	216	3
Asphalt, pitch or tar,	1									7	
Cutting or welding (not electrical),											
Flames,	13	2	2		3	1	2		1	31	2
Hot water,	23	1	9					1		44	
Molten metal—explosion of,	4									4	
Molten metal or slag (all others),	65	1	2		2				1	75	
Other hot substances (scalds),	38		4		1	1				54	1
All others,											
Conflagration,	1									1	
Falling Objects.											
Total,	199	597	39		29	1	10	5	2	964	56
Rock and earth,	2	78	1						1	95	3
Collapse of buildings or walls,	1					1	1			6	1
Collapse of scaffolds or stagings,	6	4			2					23	

Collapse of piled up material,	23		5		1			1		35	
Fall of roof (mines),	4	474	1							479	48
Objects dropped by other persons,	18	4	7		3		2			43	
Objects falling from trucks or vehicles (not loading or unloading),	23	4	3		4		1			38	
Objects falling from buildings, trestles or scaffolds,	25	10	5		3		4	2	1	186	4
All others,	97	23	17		16		2	2		59	
Fall of Persons.											
Total,	146	98	58		57	11	22	9	16	596	11
From ladder,	11	3	7		4		2			51	1
From scaffolds or platforms,	17	5	5		9			1	1	69	1
From vehicles,	4	4	6		7		7	1	2	59	1
From structures in course of erection,	2	1			1					12	
From structures (all others),	4	1	2		2	1	2		3	21	1
From other elevations,	17	6	10		3		1		1	52	1
Into excavations,	13	7	5		3				1	4	
Into other openings,	1				1			3		40	3
On level,	65	69	19		20	7	8	3	8	247	3
Stairways,	6		4		6	3	2	1		29	
All others,	6	2			1					12	
Handling of Tools or Objects.											
Total,	472	312	92		49	3	30	14	4	1,239	3
Carrying or lifting objects (not loading or unloading),	264	153	37		22	2	10	7	3	615	
Chipping or grinding,	11	9	2						1	25	
Handling of sharp objects,	18	10			5		1	1		66	
Loading or unloading,	27	24	15		10		4	4		125	2
Tools in hands of injured person,	137	108	35		12	1	14	2		373	1
Tools in hands of fellow workmen,	14	7	2							29	
All others,	1	1	1				1			6	
Power Vehicles.											
Total,	120	454	77		13		10	2	6	759	46
Collisions,	5	7	13				1		1	29	4
Coupling or uncoupling cars,	12	67	1							80	2
Defective equipment,		1								2	
Derailment—replacing cars,	2	70	5				2			82	6
Fell from, over or into,	13	43	16		2				2	84	6
Improperly loaded ladies or cars,		2								2	
Loading or unloading material,	42	54	10		3		1			135	1
Not on track,	8	7	5		5		3	2	3	48	4
Struck by car or engine,	34	151	20		3		3			232	22
Struck by overhead or side obstructions,	3	43	5							52	1
Sudden starting or stopping,			1							1	
All others,	1	9	1							12	

TABLE COVERING COMPENSABLE ACCIDENTS FOR SEPTEMBER, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Stepping on Sharp Objects.											
Total,	6	10			1	1	2	1		40	
Nails,	5	8				1	2	1		34	
All others,	1	2			1					6	
Running Into or Striking Against Objects.											
Total,	63	21	10		11		2		3	136	2
Poisonous Substances.											
Total,	2									6	
Miscellaneous.											
Total,	84	112	25		21	2	5	1	7	321	18
Acids and liquids,	5	1	3		2		2		1	20	
Animals,		26	4		7		3		1	65	2
Asphyxiation or suffocation,	1	2				1				8	3
Doors, windows or gates (exclusive of elevator gates),	7	5	4		1					20	
Drowning,											
Flying objects (not from machines, tools or explosives)	53	55	9		3			1	1	133	1
Frost bites,											
Heat prostration,	5		1		2					16	5
Intentional violence,	1					1			3	5	
Lightning,											
All others,	12	13	4		6				1	54	7
Nature of Injury.											178
Total,	1,735	1,768	358		238	23	94	37	46	5,338	

Burns and scalds,	205	57	31		9	2	2	2	6	379
Crushes and bruises,	598	826	142		66	7	36	20	13	2,099
Cuts and lacerations,	459	424	67		60	1	20	1	9	1,308
Fractures, sprains and dislocations,	358	389	102		81	10	28	11	15	1,228
Hernia,	29	25	5		7	1	1	1	1	92
Blood poisoning,	51	20	3		8	1	1	1	2	106
Punctures,	19	18	3		1	1	2			63
Unclassified,	16	9	5		6		4	1		63
Loss of Parts.										
Total,	57	47	8		6		7		2	157
Eyes,	27	22	5		3		2		2	73
Arms,	3				1					4
Hands,	5	12			1		1			26
Fingers,	11	4	1				4			25
Legs,	1	3	2							7
Feet,	4	6			1					16
Toes,	6									6
Social Condition.										
Total,	1,735	1,768	358		238	23	94	37	46	5,338
Married,	1,054	1,130	241		127	8	48	19	31	3,223
Single,	549	578	97		79	10	33	9	11	1,744
Not given,	132	60	20		32	5	13	9	4	371
Compensation.										
Amount paid—disability cases,	121,621	139,579	31,370		19,212	1,207	7,398	1,988	5,785	412,225
Fatal cases—amount paid and awarded,	97,884	349,652	61,655		38,716	3,335	2,020	100	3,800	616,721
Estimated medical cost,										
Total,										
Degree.										
Fatal,	28	85	18		15	2	1	1	2	178
Serious,	1,707	1,683	340		223	21	93	36	44	5,160
Sex.										
Male,	1,721	1,768	354		232	19	89	37	42	5,251
Female,	14		4		6	4	5		4	88
Number of dependents,	1,698	1,012	280		131	1	44	13	32	3,944
Number of dependents in fatal cases,	43	129	3							187
Number of dependents in serious cases,	1,655	883	277		131	1	44	13	32	3,757
Total number of accidents,	1,735	1,768	358		238	23	94	37	46	5,338

TABLE COVERING COMPENSABLE ACCIDENTS FOR OCTOBER, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	41	16	12	13	21	12	3	49	29	20	2
Boilers and steam pipes,											
Boiler explosions,											
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	2	1	2	1	1			3	1	2	
Belts and pulleys,		1		1				1	1		
Chains and sprockets,								1			
Cogs, gears, etc.,										2	
Fly wheels,											
Operating or repairing apparatus (electrical),			1								
Operating or repairing apparatus (not electrical),											
Ropes, cables and drums,	2		1								
Set screws, keys and bolts,											
Shafts and couplings,					1						
Unguarded and uncovered switches,											
All others,								1			
Elevators,	2	1		1	3	2	1	4	3	1	
Cable breaking,	1	1									
Cable unwinding,								1 1			
Cable—caught by,					1			1	1		
Car—caught by,					2	2	1	1	2		
Car—struck by,											

Counterweight—struck by,											
Defective equipment,										1	
Entering or leaving car,											
Fall of car,											
Fall of person,	1										
Falling objects,											
				1				1			
Cranes, hoisting apparatus, etc.,	15	3	2		2			3		1	
Cables catching person,		1	1		1						
Car striking person,											
Cleaning, oiling or repairing,										1	
Falling objects (other than load),	1										
Falls from,											
Load falling,	7				1			1			
Run over by,											
Struck by load or tackle (not falling),	6	2	1					1			
All others,	1							1			
Working machines,	22	11	8	11	15	10	2	39	25	16	2
Adjusting machine or work,		1	5	6	4	1		2	6	5	1
Breaking of machine or work,	4	1		1				1	1		
Cleaning,				1	1			2	2	2	
Emery wheels (bursting),											
Flying objects,	6		1	1						1	
Oiling,					1			1			
Operating or feeding,	3	1 6	1	1	5	8	1	21	13	7	
Repairing,											
Saws,	2	1		1	1		1	10			
Starting or stopping,	7	2	1		2	1		2	2	1	
All others,					1				1		1
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	13	26	2		4	2	1		1	6	1
Corrosive substances,		2									
Electricity,	2	1					1				
Cutting or welding,											
Explosives,	2	11			1					1	

TABLE COVERING COMPENSABLE ACCIDENTS FOR OCTOBER, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Acetylene,											
Carbon dioxide,											
Compressed air,											
Dust,											
Dynamite, powder or nitro-glycerine,	1	16									
Gas,	1	1									
Gasoline,											
Manufacturing or storing,											
Transporting or handling,											
All others,										1	
Hot substances or flames,	9	12	2		3	2			1	5	1
Asphalt, pitch or tar,	1										
Cutting or welding (not electrical),											
Flames,	2	5			1	1				1	1
Hot water,	3				1					1	
Molten metal—explosion of,											
Molten metal or slag (all others),	2	3	1							1	
Other hot substances (scalds),	1	4	1		1	1				2	
All others,											
Conflagration,									1		
Falling Objects.											
Total,	34	3	16		4	2		10	2	3	
Rock and earth,	6	2	7								
Collapse of buildings or walls,	4										
Collapse of scaffolds or stagings,	5		1					1			

Collapse of piled up material,	3		2							1	
Fall of roof (mines),			2								
Objects dropped by other persons,	5		1						1	1	
Objects falling from trucks or vehicles (not loading or unloading),	2					1		1	1		
Objects falling from buildings, trestles or scaffolds,	5	1	3		3	1		6		1	
All others,	4				1			2			
Fall of Persons.											
Total,	59	18	16	4	23	7	5	14	6	13	4
From ladder,	7	1	1		1		1	1			1
From scaffolds or platforms,	13	5	4	1	2	1		2		1	
From vehicles,	11	1	1		7		2	2			
From structures in course of erection,	8										
From structures (all others),	1	1						1			
From other elevations,	3		2		1	1		2			
Into excavations,	1					1					
Into other openings,	3				1	2		1		2	
On level,	9	10	8	2	9	1	1	4	5	9	1
Stairways,	3			1	2	1	1			1	2
All others,								1	1		
Handling of Tools or Objects.											
Total,	67	11	35	2	30	11	11	39	7	13	1
Carrying or lifting objects (not loading or unloading),	35	6	17	1	20	5	5	13	4	5	1
Chipping or grinding,			3								
Handling of sharp objects,	2		6		2		2	2			
Loading or unloading,	11	1	3		2	1	2	3	1		
Tools in hands of injured person,	16	4	4	1	4	5	2	19	2	8	
Tools in hands of fellow workmen,	2		2		2			1			
All others,	1							1			
Power Vehicles.											
Total,	21	5	15		9	5	7	12	6	3	2
Collisions,	1		1				1				1
Coupling or uncoupling cars,								1			
Defective equipment,											
Derailment—replacing cars,			1								
Fell from, over or into,	2		3			1		1			
Improperly loaded ladles or cars,											
Loading or unloading material,	4	2	4		5	3	2	4	5	2	
Not on track,	4		2		2		2	2			1
Struck by car or engine,	6	3	4		2	1	2	3	1	1	
Struck by overhead or side obstructions,	2										
Sudden starting or stopping,											
All others,	2							1			

TABLE COVERING COMPENSABLE ACCIDENTS FOR OCTOBER, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Stepping on Sharp Objects.											
Total,	9			1	1				2	2	
Nails,	9			1	1				1	2	
All others,									1		
Running Into or Striking Against Objects.											
Total,	14	1	7		4	1	1	5	1	2	
Poisonous Substances.											
Total,						1					
Miscellaneous.											
Total,	17	3	3		6	2	3	10	3	1	
Acids and liquids,	1	1					1			1	
Animals,	4		1		2		1	6	1		
Asphyxiation or suffocation,								1			
Doors, windows or gates (exclusive of elevator gates),	2	1			1	1					
Drowning,											
Flying objects (not from machines, tools or explosives)	8		1					3			
Frost bites,											
Heat prostration,			1			1			1		
Intentional violence,											
Lightning,		1									
All others,	2				3		1		1 1		

Nature of Injury.											
Total,	275	83	106	20	102	43	31	139	57	63	10
Burns and scalds,	13	18	4		4	1	2		4	5	3
Crushes and bruises,	109	27	32	10	38	22	13	63	27	20	1
Cuts and lacerations,	51	5	32	5	25	7	6	38	13	18	1
Fractures, sprains and dislocations,	77	23	29	4	26	6	4	28	10	13	4
Hernia,	4	1	3	1	2	1	2	3	1	1	
Blood poisoning,	4	3	3		4	5	1	4		5	
Punctures,	11		2		1			2	1		
Unclassified,	6	6	1		2	1	3	1	1	1	1
Loss of Parts.											
Total,	11	1	3		2		1	2			
Eyes,	8	1	2				1	1			
Arms,											
Hands,			1		2			1			
Fingers,											
Legs,	1										
Feet,	1										
Toes,	1										
Social Condition.											
Total,	275	83	106	20	102	43	31	139	57	63	10
Married,	162	55	68	9	48	25	23	78	26	32	4
Single,	80	25	36	8	48	17	7	49	27	27	6
Not given,	33	3	2	3	6	1	1	12	4	4	
Compensation.											
Amount paid—disability cases,	29,645	4,670	7,926	1,026	6,726	1,649	$2,258	$7,298	$1,817	$1,990	$1,042
Fatal cases—amount paid and awarded,	32,759	30,497	1,830		2,080	7,225	4,475	2,769	5,394	100	
Estimated medical cost,											
Total,											
Degree.											
Fatal,	10	9	1		1	3	2	2	3	1	
Serious,	265	74	105	20	101	40	29	137	54	62	10
Sex.											
Male,	275	79	104	11	96	40	31	132	50	46	7
Female,		4	2	9	6	3		7	7	17	3
Number of dependents in fatal cases,	18	16	2			3			1		
Number of dependents in serious cases,	173	72	114	18	63	30	24	115	17	14	1
Total number of dependents,	191	88	116	18	63	33	24	115	18	14	1
Total number of accidents,	275	83	106	20	102	43	31	139	57	63	10

TABLE COVERING COMPENSABLE ACCIDENTS FOR OCTOBER, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	444	84	52		52	5	20	6	3	884	22
Boilers and steam pipes,											
Boiler explosions,											
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	16	7			2		1			39	2
Belts and pulleys,	9	2								15	2
Chains and sprockets,	3	1					1			6	
Cogs, gears, etc.,	2									4	
Fly wheels,	1									1	
Operating or repairing apparatus (electrical),		1								2	
Operating or repairing apparatus (not electrical),											
Ropes, cables and drums,	1	3			1					8	
Set screws, keys and bolts,											
Shafts and couplings,					1					2	
Unguarded and uncovered switches,											
All others,										1	
Elevators,	15	1	3		5	2	3	3		50	5
Cable breaking,	1					1				4	1
Cable unwinding,	4									5	1
Cable—caught by,	3		1		1		1			9	
Car—caught by,	4	1	1		3	1	2	1		21	3
Car—struck by,			1					1		2	

Counterweight—struck by,												
Defective equipment,											1	
Entering or leaving car,												
Fall of car,									1		1	
Fall of person,					1						2	
Falling objects,	1										1	
	2										4	
Cranes, hoisting apparatus, etc.,	101	14	10		14		1				166	9
Cables catching person,	19	6			3						31	
Car striking person,	5	1			1						7	2
Cleaning, oiling or repairing,											1	
Falling objects (other than load),	10	1	1		2						15	1
Falls from,	4										4	2
Load falling.	16	1	4		2						32	1
Run over by,	3										3	1
Struck by load or tackle (not falling),	41	1	5		6		1				64	2
All others.	3	4									9	
Working machines,	312	62	39		31	3	15	3	3		629	6
Adjusting machine or work,	73	5	7		8				1		125	
Breaking of machine or work,	7	5			1						19	
Cleaning,	11	2	1			1					23	1
Emery wheels (burstiug),												
Flying objects,	58	28	8		4				2		109	2
Oiling,	2	2			1		1				8	
Operating or feeding,	120	8	11		11	1	3	1			221	1
Repairing,	8	3				1					12	1
Saws.	8	3			4						31	
Starting or stopping.	18	6	10		1		11	2			66	1
All others,	7	2	2		1						15	
Explosives, Electricity, Fires, Hot or Corrosive Substances.												
Total,	160	102	31		3	2		1	4		359	35
Corrosive substances,	1	1									4	
Electricity,	9	11	17								41	10
Cutting or welding,												
Explosives,	20	75	6					1	1		118	18

TABLE COVERING COMPENSABLE ACCIDENTS FOR OCTOBER, 1918.—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Acetylene,											
Carbon dioxide,		2								2	
Compressed air,	1									1	
Dust,											
Dynamite, powder or nitro-glycerine,	5	35							1	52	12
Gas,	6	35	2							45	4
Gasoline,	1		3					1		6	
Manufacturing or storing,	1									1	
Transporting or handling,										1	1
All others,	6	3	1							10	1
Hot substances or flames,	130	15	8		3	2			3	196	7
Asphalt, pitch or tar,									1	2	
Cutting or welding (not electrical),											
Flames,	8	4	1		1	1			1	27	4
Hot water,	13	5	3			1				27	2
Molten metal—explosion of,	5	1								6	
Molten metal or slag (all others),	71	1	1		1					81	1
Other hot substances (scalds),	30	4	3		1				1	49	
All others,											
Conflagration,	3									4	
Falling Objects.											
Total,	151	607	29		28	1	4	3		897	47
Rock and earth,	4	76			1		1			97	6
Collapse of buildings or walls,					1					5	1
Collapse of scaffolds or stagings,	1		2		4					14	2

Collapse of piled up material,	17	3			3		1			30	2
Fall of roof (mines),	1	487	1							491	31
Objects dropped by other persons,	14	4	3		2					31	1
Objects falling from trucks or vehicles (not loading or unloading),	17	3			3			3		34	1
Objects falling from buildings, trestles or scaffolds,	25	10	5		5	1	1			141	3
All others,	74	21	14		11		1			54	
Fall of Persons.											
Total,	121	94	39	1	53	12	31	7	7	534	10
From ladder,	6	4	4		5		2			34	
From scaffolds or platforms,	15	6	4		1		1	2	1	77	2
From vehicles,	8	8	3		8		14	3	1	69	2
From structures in course of erection,		1			2					11	
From structures (all others),	4				3				1	11	2
From other elevations,	18	8	1		3					39	
Into excavations,	4				1					7	
Into other openings,	6	5	3		1	1			1	26	2
On level,	57	59	20	1	12	9	12		1	230	
Stairways,	2		4			1	2	2	1	23	1
All others,	1	1			2				1	7	1
Handling of Tools or Objects.											
Total,	475	287	96	1	50	6	23	11	4	1,180	4
Carrying or lifting objects (not loading or unloading),	289	147	47		19	4	14	7		639	1
Chipping or grinding,	17	4	2		3					29	
Handling of sharp objects,	13	8	2		1					38	
Loading or unloading,	25	22	2		6		2	1	1	83	1
Tools in hands of injured person,	117	101	35	1	10	2	6	3	3	352	2
Tools in hands of fellow workmen,	14	4	8		1		2	1	1	83	1
All others,		1			1					4	
Power Vehicles.											
Total,	106	434	69		13		11	3	8	729	34
Collisions,	3	17	10		1		1	1		37	3
Coupling or uncoupling cars,	15	56	6		1					79	1
Defective equipment,		1								1	
Derailment—replacing cars,	3	58	1							63	4
Fell from, over or into,	12	21	17		2				1	60	3
Improperly loaded ladles or cars,					1					1	
Loading or unloading material,	24	47	11		2				1	116	1
Not on track,	13	5	5		4		7	1	5	53	1
Struck by car or engine,	35	177	12		2		3	1	1	254	18
Struck by overhead or side obstructions,	1	48	5							56	3
Sudden starting or stopping,			1							1	
All others,		4	1							8	

TABLE COVERING COMPENSABLE ACCIDENTS FOR OCTOBER, 1918.—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Stepping on Sharp Objects.											
Total,	5	6	1		4	2	1			34	
Nails,	3	3	1		3	1				25	
All others,	2	3			1	1	1			9	
Running Into or Striking Against Objects.											
Total,	49	37	8		8	1	3	1		143	
Poisonous Substances.											
Total,	1		1		1	1				5	
Miscellaneous.											
Total,	68	109	22		10	2	11	2	4	276	18
Acids and liquids,	7	6	1							18	
Animals,	5	43	3		3		6	1	1	77	
Asphyxiation or suffocation,	5	6								12	5
Doors, windows or gates (exclusive of elevator gates),	11	9	6			1				32	1
Drowning,		1	2		2					5	3
Flying objects (not from machines, tools or explosives)	26	33	6							77	1
Frost bites,											
Heat prostration,	8	3	1		1				1	17	3
Intentional violence,		1	3						2	6	1
Lightning,		1								2	
All others,	6	6			4	1	5	1		30	4
											170

Nature of Injury.										
Total,	1,580	1,760	348	2	222	32	104	34	30	5,041
Burns and scalds,	179	74	29		2	2			3	343
Crushes and bruises,	577	798	151	2	71	17	45	12	8	2,043
Cuts and lacerations,	383	422	60		49	6	12	5	7	1,145
Fractures, sprains and dislocations,	318	385	93		76	6	40	13	10	1,165
Hernia,	35	16	3		7		2		1	83
Blood poisoning,	52	27	3		7		1	2		121
Punctures,	14	18	2		4	1				56
Unclassified,	22	20	7		6		4	2	1	85
Loss of Parts.										
Total,	63	39	8		6		4		3	143
Eyes,	21	11	2		3				2	52
Arms,	2	2								4
Hands,	11	4			2					21
Fingers,	21	9	3		1		2		1	37
Legs,	2	6	3				1			13
Feet,	3	6								10
Toes,	3	1					1			6
Social Condition.										
Total,	1,580	1,760	348	2	222	32	104	34	30	5,041
Married,	985	1,140	240		119	20	51	22	24	3,131
Single,	479	573	91	1	78	12	32	11	4	1,611
Not given,	116	47	17	1	25		21	1	2	299
Compensation.										
Amount paid—disability cases,	$117,311	$121,416	$24,118	$438	$16,263	$958	$6,531	$1,682	$3,540	$358,304
Fatal cases—amount paid and awarded,	80,497	278,848	40,182		19,092		4,557		7,482	517,787
Estimated medical cost,										
Total,										
Degree.										
Fatal,	27	82	15		9		2		3	170
Serious,	1,553	1,678	333	2	213	32	102	34	27	4,871
Sex.										
Male,	1,557	1,760	342	2	214	23	92	34	30	4,925
Female,	23		6		8	9	12			116
Number of dependents in fatal cases,	22	111	12		2					187
Number of dependents in serious cases,	1,485	1,027	306		119	7	31	14	8	3,638
Total number of dependents,	1,507	1,138	318		121	7	31	14	8	3,825
Total number of accidents,	1,580	1,760	348	2	222	32	104	34	30	5,041

TABLE COVERING COMPENSABLE ACCIDENTS FOR NOVEMBER, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	39	18	11	16	30	23	1	55	35	38	2
Boilers and steam pipes,			1		1						
Boiler explosions,			1		1						
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	2	2	2		2	1			2	3	
Belts and pulleys,	2	2	1		2	1			2	1	
Chains and sprockets,											
Cogs, gears, etc.,										1	
Fly wheels,											
Operating or repairing apparatus (electrical),											
Operating or repairing apparatus (not electrical),											
Ropes, cables and drums,			1								
Set screws, keys and bolts,										1	
Shafts and couplings,											
Unguarded and uncovered switches,											
All others,											
Elevators,	3	2		1	3	2			1	3	
Cable breaking,		1							1		
Cable unwinding,						1					
Cable—caught by,		1			1	1					
Car—caught by,				1	1					3	
Car—struck by,					1						

Counterweight—struck by,											
Defective equipment,	1										
Entering or leaving car,											
Fall of car,	1										
Fall of person,											
Falling objects,											
	1										
Cranes, hoisting apparatus, etc.,	10	2	2		1			1	1		
Cables catching person,											
Car striking person,								1			
Cleaning, oiling or repairing,									1		
Falling objects (other than load),											
Falls from,					1						
Load falling,	5										
Run over by,											
Struck by load or tackle (not falling),	4	2	2								
All others,	1										
Working machines,	24	12	6	15	23	20	1	54	31	32	2
Adjusting machine or work,	2	1		3	3	3		10	4	6	
Breaking of machine or work,	1	1	1						2	1	
Cleaning,	1		1	1	2	1		1	1	3	
Emery wheels (bursting),											
Flying objects,	3	1			1			2			
Oiling,			1						1		
Operating or feeding,	6	2	2	10	10	12	1	20	19	17	2
Repairing,					1			2			
Saws,	1	1						18	2		
Starting or stopping,	9	6	1	1	6	4		1	2	4	
All others,	1									1	
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	8	23	7	1	4	1			2	6	1
Corrosive substances,		1								2	
Electricity,	2	1									
Cutting or welding,											
Explosives,	1	11	2						1		

TABLE COVERING COMPENSABLE ACCIDENTS FOR NOVEMBER, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Acetylene,											
Carbon dioxide,											
Compressed air,											
Dust.									1		
Dynamite, powder or nitro-glycerine,		7									
Gas.		3	1								
Gasoline,	1										
Manufacturing or storing,											
Transporting or handling,											
All others.		1	1								
Hot substances or flames,	5	10	5	1	4	1			1	4	1
Asphalt, pitch or tar,	1										
Cutting or welding (not electrical),											
Flames.	1	2	1								
Hot water,	1	2	2	1	3					3	
Molten metal—explosion of,											
Molten metal or slag (all others),	2	1	1								
Other hot substances (scalds),		5	1		1	1			1	1	1
All others,											
Conflagration,											
Falling Objects.											
Total,	41	8	9		7	2		14	5	1	
Rock and earth,	6		2								
Collapse of buildings or walls,	2		1								
Collapse of scaffolds or stagings,	2	2									

Collapse of piled up material,	2	2	1			1		4	1		
Fall of roof (mines),	1		1						1		
Objects dropped by other persons,	7										
Objects falling from trucks or vehicles (not loading or unloading),	2							1			
Objects falling from buildings, trestles or scaffolds,	13	4	2		6	1		5	1		
All others,	6		2		1			4	2	1	
Fall of Persons.											
Total,	79	11	13	7	14	7	2	13	6	9	1
From ladder,	12	1			2	1					
From scaffolds or platforms,	11	3	1		1	1		3		2	
From vehicles,	14	1	3	2	2	1		3			
From structures in course of erection,	10		1								
From structures (all others),	3		1								
From other elevations,	6	1	4		1			2	2	1	
Into excavations,	2										
Into other openings,	7		2				1	1		1	
On level,	14	5	1	4	7	3	1	3	2	4	
Stairways,				1	1			1	1	1	1
All others,						1			1		
Handling of Tools or Objects.											
Total,	71	16	35	3	20	6	5	27	8	16	1
Carrying or lifting objects (not loading or unloading).	36	11	16	3	12	4	3	13	2	12	
Chipping or grinding,											
Handling of sharp objects,	4		9		1	1		1	1		
Loading or unloading,	15	2	2				1	3	2		
Tools in hands of injured person,	14	3	7		7	1	1	9	2	4	1
Tools in hands of fellow workmen,	2		1					1	1		
All others,											
Power Vehicles.											
Total,	29	9	21	1	8	4	4	11	3	3	
Collisions,	1	1	1		1	1					
Coupling or uncoupling cars,	1	1	2						1		
Defective equipment,											
Derailment—replacing cars,			4								
Fell from, over or into,	1	2	2								
Improperly loaded ladles or cars,											
Loading or unloading material,	12	2	4		2	1	3	5			
Not on track,	7	3	1	1	1 2	2	1	4	2	1	
Struck by car or engine,	5		7		1 2			1		2	
Struck by overhead or side obstructions,								1			
Sudden starting or stopping,											
All others,	2				1						

TABLE COVERING COMPENSABLE ACCIDENTS FOR NOVEMBER, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Stepping on Sharp Objects.											
Total,	2	1	1				1	1	2		
Nails,	2	1	1				1	1	2		
All others,											
Running Into or Striking Against Objects.											
Total,	7	2	2	1	6		1	3		4	
Poisonous Substances.											
Total,										1	
Miscellaneous.											
Total,	14	14	10		10	3		7	4	5	
Acids and liquids,	2	10				1			2	2	
Animals,	3		3		5			3			
Asphyxiation or suffocation,						1					
Doors, windows or gates (exclusive of elevator gates),	2				1					2	
Drowning,											
Flying objects (not from machines, tools or explosives)	4	1	2		2			3			
Frost bites,											
Heat prostration,									1		
Intentional violence,		1	2		1						
Lightning,	1										
All others,	2	2	3		1	1		1	1	1	

Nature of Injury.											
Total,	290	102	109	29	99	46	14	131	65	83	5
Burns and scalds,	11	20	6	2	5	3			2	7	3
Crushes and bruises,	122	35	39	8	50	17	6	50	24	34	1
Cuts and lacerations,	54	10	30	7	16	11	1	47	16	14	
Fractures, sprains and dislocations,	83	22	22	8	18	9	6	27	18	16	
Hernia,	4		6	1	4	1		2		4	
Blood poisoning,	4	5	2	2	1	2		3	1	7	1
Punctures,	2	2	1	1	1	1	1		2	1	
Unclassified,	10	8	3		4	2		2	2		
Loss of Parts.											
Total,	7	5			1	3		3	3	3	
Eyes,	5	4						1	1		
Arms,	2	1									
Hands,					1	2			2	1	
Fingers,						1		2		2	
Legs,											
Feet,											
Toes,											
Social Condition.											
Total,	290	102	109	29	99	46	14	131	65	83	5
Married,	170	68	74	13	54	25	10	82	31	37	4
Single,	98	30	33	15	36	14	4	36	30	36	1
Not given,	22	4	2	1	9	7		13	4	10	
Compensation.											
Amount paid—disability cases,	$28,520	$12,797	$5,201	$984	$5,422	$5,809	$716	$6,518	$6,112	$4,617	$120
Fatal cases—amount paid and awarded,	24,952	14,054	10,319		12,176	2,536	4,364				
Estimated medical cost,											
Total,											
Degree.											
Fatal,	14	9	2		4	1	1				
Serious.	276	93	107	29	95	45	13	131	65	83	5
Sex.											
Male,	288	98	107	21	93	43	14	124	54	61	1
Female,	2	4	2	8	6	3		7	11	22	4
Number of dependents in fatal cases,	19	8	7		8	2	1				
Number of dependents in serious cases,	226	113	107	21	50	21	19	100	35	31	7
Total number of dependents,	245	121	114	21	58	23	20	100	35	31	7
Total number of accidents,	290	102	109	29	99	46	14	131	65	83	5

TABLE COVERING COMPENSABLE ACCIDENTS FOR NOVEMBER, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	472	111	50		51	1	15	3	1	972	19
Boilers and steam pipes,		2								4	2
Boiler explosions,		2								4	2
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	15	18	5		2		1			55	2
Belts and pulleys,	11	2			1		1			26	1
Chains and sprockets,		3	2							5	
Cogs, gears, etc.,	1	1	1							4	
Fly wheels,		2								2	1
Operating or repairing apparatus (electrical),	1		1							2	
Operating or repairing apparatus (not electrical),			1							1	
Ropes, cables and drums,	1	9			1					12	
Set screws, keys and bolts,	1									2	
Shafts and couplings,		1								1	
Unguarded and uncovered switches,											
All others,											
Elevators,	20	6	5		2		4	2		54	
Cable breaking,		2								4	
Cable unwinding,			1							2	
Cable—caught by,	6		2							11	
Car—caught by,	8	1	1		2		2	1		20	
Car—struck by,								1		2	

Counterweight—struck by,										2	
Defective equipment,		1								3	
Entering or leaving car,	2						1			7	
Fall of car,	3	2	1								
Fall of person,										1	
Falling objects,	1									2	
							1				
Cranes, hoisting apparatus, etc.,	111	6	12		12					158	9
Cable catching person,	19	5	3		2					29	1
Car striking person,	7				1					9	2
Cleaning, oiling or repairing,	1				1					3	
Falling objects (other than load),	10		3							13	1
Falls from,	3									4	
Load falling,	18		2							25	3
Run over by,	1									1	1
Struck by load or tackle (not falling),	48	1	4		8					69	1
All others,	4									5	
Working machines,	326	79	28		35	1	10	1	1	701	6
Adjusting machine or work,	62	13	4		2		1			114	
Breaking of machine or work,	19	1	2		1		1			30	2
Cleaning,	4	1			2					18	
Emery wheels (bursting),	59	38	10		10					2	1
Flying objects,	2									124	
Oiling,	10	2	1							15	1
Operating or feeding,	133	16	8		13		2		1	274	2
Repairing,	4	1	2		1					11	
Saws,	6	4			1		1			34	
Starting or stopping,	21	2	1		5	1	5	1		70	
All others,	6	1								9	
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	172	94	26	1	6	3			1	356	29
Corrosive substances,	5									8	
Electricity,	7	14	15							39	6
Cutting or welding,											
Explosives,	17	72	2	1		2			1	110	14

TABLE COVERING COMPENSABLE ACCIDENTS FOR NOVEMBER, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Acetylene,											
Carbon dioxide,		1								1	
Compressed air,		1								1	1
Dust,	2									3	
Dynamite, powder or nitro-glycerine,	6	34								47	11
Gas,	4	34	2	1		1			1	47	2
Gasoline,	1									2	
Manufacturing or storing,											
Transporting or handling,											
All others,	4	2				1				9	
Hot substances or flames,	143	8	9		6	1				199	9
Asphalt, pitch or tar,					1					2	
Cutting or welding (not electrical),											
Flames,	11	5	3		3					26	4
Hot water,	14	1	3		1	1				32	1
Molten metal—explosion of,	7		1							8	
Molten metal or slag (all others),	72									76	4
Other hot substances (scalds),	38	2	1		1					53	
All others,											
Conflagration,	1		1							2	
Falling Objects.											
Total,	201	539	26		34	1	4	4	5	901	59
Rock and earth,		44					1		3	56	5
Collapse of buildings or walls,		1								4	1
Collapse of scaffolds or stagings,	7	2	1		3					17	

Collapse of piled up material,	23	2	4		4			1		45	3
Fall of roof (mines),	3	454			2					462	40
Objects dropped by other persons,	13	5	5		5					35	3
Objects falling from trucks or vehicles (not loading or unloading),	29	2	3		2			1		40	
Objects falling from buildings, trestles or scaffolds,	90	14	13		14		2	1	1	167	4
All others,	36	15			4	1	1	1	1	75	3
Fall of Persons.											
Total,	128	94	44		55	6	29	4	4	526	17
From ladder,	15	1	4		8	2	2			48	1
From scaffolds or platforms,	16	5	5		8		4			60	3
From vehicles,	3	6	3		6		6		2	52	1
From structures in course of erection,		1			6					18	3
From structures (all others),	5	2	3		2	1	1			18	
From other elevations,	9	6	5		3		3	3		46	
Into excavations,					1					3	
Into other openings,	6	5	4		3			1		31	5
On level,	70	66	17		17	2	8		2	226	3
Stairways,	3		1				5			15	1
All others,	1	2	2		1	1				9	
Handling of Tools or Objects.											
Total,	539	279	89		44	7	19	4	2	1,191	5
Carrying or lifting objects (not loading or unloading),	318	152	38		25	3	8	3	1	660	
Chipping or grinding,	12	1								13	
Handling of sharp objects,	7	5	1		1	3	1			35	1
Loading or unloading,	30	21	10		1		2			89	3
Tools in hands of injured person,	149	95	36		13	1	8		1	352	1
Tools in hands of fellow workmen,	21	3	4		4			1		38	
All others,	2	2								4	
Power Vehicles.											
Total,	99	403	88	1	11		12	4	2	713	52
Collisions,	4	9	16		1				2	37	3
Coupling or uncoupling cars,	8	51	6		1					71	4
Defective equipment,	1	2	1							4	1
Derailment—replacing cars,	2	67	4							77	3
Fell from, over or into,	10	33	26							74	10
Improperly loaded ladles or cars,		1								1	
Loading or unloading material,	26	38	13		6		3	2		117	2
Not on track,	11		3	1	3		7	2		51	3
Struck by car or engine,	31	155	15				2			220	23
Struck by overhead or side obstructions,	4	39	3							47	3
Sudden starting or stopping,		1								1	
All others,	2	7	1							13	

TABLE COVERING COMPENSABLE ACCIDENTS FOR NOVEMBER, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Stepping on Sharp Objects.											
Total,	9	4			2		1	1		25	
Nails.	5	3			2		1	1		20	
All others,	4	1								5	
Running Into or Striking Against Objects.											
Total.	59	34	9		4	1				133	2
Poisonous Substances.											
Total	1	1								3	
Miscellaneous.											
Total,	53	77	19	1	15	1	9	3	4	249	11
Acids and liquids,	4	4	1							26	1
Animals,	1	36	5	1	3		3	2	1	66	2
Asphyxiation or suffocation,	2	2			1		1			7	2
Doors, windows or gates (exclusive of elevator gates),	10	7	2		4	1	1			30	
Drowning,									1	1	1
Flying objects (not from machines, tools or explosives)	22	22	7		3			1		67	1
Frost bites,											
Heat prostration,	1		1		1					4	2
Intentional violence,	3		3				1		1	12	1
Lightning,										1	
All others,	10	6			3		3		1	35	1
											194

Nature of Injury.										
Total,	1,733	1,636	351	3	222	20	89	23	19	5,069
Burns and scalds,	204	71	28	1	8	3			1	375
Crushes and bruises,	627	730	154	1	65	5	34	16	7	2,025
Cuts and laecrations,	398	391	67		45	4	9	1	3	1,124
Fraetures, sprains and dislocations,	370	378	89	1	81	5	38	4	6	1,201
Hernia,	42	22	2		6	1	1			96
Blood poisoning,	53	18	5		8	2	2	1	1	118
Punetures,	27	15	2		3		1	1		61
Unclassified,	12	11	4		6		4		1	69
Loss of Parts.										
Total,	51	28	11		9					124
Eyes,	17	11	6		3					48
Arms,	1	1								5
Hands,	8	4	1		2					21
Fingers,	15	1	1		2					24
Legs,	3	4								7
Feet,	4	6	3							13
Toes,	3	1			2					6
Social Condition.										
Total,	1,733	1,636	351	3	222	20	89	23	19	5,069
Married,	1,086	1,075	230	3	135	11	39	17	14	3,178
Single,	540	518	106		54	8	44	5	5	1,613
Not given,	107	43	15		33	1	6	1		278
Compensation.										
Amount paid—disability eases,	$112,182	$108,074	$26,680	$108	$22,722	$605	$3,589	$823	$769	$352,368
Fatal eases—amount paid and awarded,	107,732	294,941	42,332		20,116	2,264	3,369		6,886	546,041
Estimated medieal eost,										
Total,										
Degree.										
Fatal,	37	92	18		8	1	2		5	194
Serious,	1,696	1,544	333	3	214	19	87	23	14	4,875
Sex.										
Male,	1,708	1,636	346	3	215	13	82	23	17	4,947
Female,	25		5		7	7	7		2	122
Number of dependents in fatal eases,	67	210	30		14	2	3		6	377
Number of dependents in serious eases,	1,703	1,155	291	7	138	11	30	21	10	4,096
Total number of dependents,	1,770	1,365	321	7	152	13	33	21	16	4,473
Total number of accidents,	1,733	1,636	351	3	222	20	89	23	19	5,069

TABLE COVERING COMPENSABLE ACCIDENTS FOR DECEMBER, 1918.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	33	11	16	8	28	9	2	42	22	23	4
Boilers and steam pipes,										1	
Boiler explosions,										1	
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	7	1	1	1	3		1	1	1	3	
Belts and pulleys,	3		1						1	2	
Chains and sprockets,					2		1	1			
Cogs, gears, etc.,	3										
Fly wheels,											
Operating or repairing apparatus (electrical),		1									
Operating or repairing apparatus (not electrical),				1							
Ropes, cables and drums,	1				1					1	
Set screws, keys and bolts,											
Shafts and couplings,											
Unguarded and uncovered switches,											
All others,											
Elevators,	3				7			1	1		
Cable breaking,											
Cable unwinding,	1				1			1			
Cable—caught by,	1				1				1		
Car—caught by,					4						
Car—struck by,											

Counterweight—struck by,					1							
Defective equipment,												
Entering or leaving car,												
Fall of car,												
Fall of person,	1											
Falling objects,												
Cranes, hoisting apparatus, etc.,	10	1	1		2					1		
Cable catching person,	1									1		
Car striking person,												
Cleaning, oiling or repairing,												
Falling objects (other than load),												
Falls from,	2											
Load falling,	2				1							
Run over by,												
Struck by load or tackle (not falling),	3		1		1							
All others,	2	1										
Working macbines,	13	9	14	7	16	9	1	40	20	18	4	
Adjusting macbine or work,	2	1	3			1			5	5		
Breaking of machine or work,	2											
Cleaning,		2			1			1	1	8		
Emery wbeels (bursting),												
Flying objects,	1	1	3	1				2	1			
Oiling,			1		1			1				
Operating or feeding,	4	3	3	5	9	7		20	13	3	2	
Repairing,			1					1		2		
Saws,	1		2					12				
Starting or stopping,	3	2	1	1	5		1	3			2	
All otbers,						1						
Explosives, Electricity, Fires, Hot or Corrosive Substances.												
Total,	12	17	3	1	5		4		3	1		
Corrosive substances,		1										
Electricity,	1		1									
Cutting or welding,												
Explosives,	2	7			3		2					

TABLE COVERING COMPENSABLE ACCIDENTS FOR DECEMBER, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries.	Textiles.	Laundries.
Acetylene,											
Carbon dioxide,											
Compressed air,											
Dust,											
Dynamite, powder or nitro-glycerine,	1	4									
Gas,	1	1			1		1				
Gasoline,		1									
Manufacturing or storing,											
Transporting or handling,											
All others,		1			2		1				
Hot substances or flames,	9	9	2	1	2		2		3	1	
Asphalt, pitch or tar,	5										
Cutting or welding (not electrical),											
Flames,		2	1		1		1				
Hot water,	4	3		1			1			1	
Molten metal—explosion of,											
Molten metal or slag (all others),		3									
Other hot substances (scalds),		1	1		1				3		
All others,											
Conflagration,											
Falling Objects.											
Total,	30	6	13	1	3	2	1	9	3	3	
Rock and earth,	6		6						1		
Collapse of buildings or walls,	1		1								
Collapse of scaffolds or stagings,	5	1							1		

Collapse of piled up material,	1		1		1			3		1	
Fall of roof (mines),	1		2								
Objects dropped by other persons,	2	1									
Objects falling from trucks or vehicles (not loading or unloading),	3									1	
Objects falling from buildings, trestles or scaffolds,	9	3	3	1	2	2	1	6	1	1	
All others,	2	1									
Fall of Persons.											
Total,	71	21	6	2	10	3	8	9	5	10	1
From ladder,	8	4		1						1	
From scaffolds or platforms,	15	2	1				1	3			
From vehicles,	6	4	1	1	1	1	2	1			
From structures in course of erection,	9										
From structures (all others),	8							2			
From other elevations,	7	3			1				2		1
Into excavations,	2		1				2			1	
Into other openings,	3	1	1						1		
On level,	12	5	2		8	2	3	3	2	7	
Stairways,	1	2								1	
All others,											
Handling of Tools or Objects.											
Total,	71	31	27	6	25	7	11	25	7	9	1
Carrying or lifting objects (not loading or unloading),	31	17	13	3	12	5	4	9	5	6	
Chipping or grinding,	3		1								
Handling of sharp objects,	1	2	8				4	1			1
Loading or unloading,	6	4	1		3	1		1	1	1	
Tools in hands of injured person,	25	6	4	3	9	1	3	13	1	2	
Tools in hands of fellow workmen,	5	2						1			
All others,					1						
Power Vehicles.											
Total,	20	12	12	2	7	2	3	7	7		
Collisions,					2		1				
Coupling or uncoupling cars,	3							1			
Defective equipment,					1						
Derailment—replacing cars,			1		1						
Fell from, over or into,	2	2	2						2		
Improperly loaded ladles or cars,											
Loading or unloading material,	2	5	3		1	1	1	5	1		
Not on track,	8	1		2	2		1	1	3		
Struck by car or engine,	5	4	6			1			1		
Struck by overhead or side obstructions,											
Sudden starting or stopping,											
All others,											

TABLE COVERING COMPENSABLE ACCIDENTS FOR DECEMBER, 1918—Continued.

Cause.	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its re-manufacture.	Paper and printing industries	Textiles.	Laundries.
Stepping on Sharp Objects.											
Total,	7		1					2		1	
Nails,	7							2			
All others,			1							1	
Running Into or Striking Against Objects.											
Total,	3	3	2	1	4	3		3	1	4	
Poisonous Substances.											
Total,											
Miscellaneous.											
Total,	10	10	6	2	3	4		5	4	4	2
Acids and liquids,		5				2					1
Animals,			2					4			
Asphyxiation or suffocation,		2				1			1		
Doors, windows or gates (exclusive of elevator gates),			1	1	1			1	1		
Drowning,											
Flying objects (not from machines, tools or explosives)	4	3	1		1					3	
Frost bites,										1	
Heat prostration,	1								1		
Intentional violence,					1						
Lightning,											
All others,	5		2	1		1			1		1

Nature of Injury.											
Total,	257	111	86	23	85	30	29	102	52	55	8
Burns and scalds,	11	17	2	1	4	2	2		3	3	
Crushes and bruises,	95	38	29	12	26	11	8	38	27	18	1
Cuts and lacerations,	44	20	30	6	17	4	7	43	9	11	1
Fractures, sprains and dislocations,	90	23	15	2	33	6	8	14	9	16	5
Hernia,	2	7	3			1		1		3	
Blood poisoning,	7	1	3	2	4	4	2	2	1	3	1
Punctures,	5		3					3		1	
Unclassified,	3	5	1		1	2	2	1	3		
Loss of Parts.											
Total,	9	6	3		1			5	1	2	
Eyes,	4	3								1	
Arms,			1		1			1			
Hands,		2	1					1		1	
Fingers,	3							2	1		
Legs,	2										
Feet,		1	1								
Toes,								1			
Social Condition.											
Total,	257	111	86	23	25	30	29	102	52	55	8
Married,	153	73	52	12	45	19	24	60	22	29	3
Single,	79	32	27	9	34	8	5	32	28	24	4
Not given,	25	6	7	2	6	3		10	2	2	1
Compensation.											
Amount paid—disability cases,	27,176	12,771	7,710	1,063	5,254	1,234	891	8,226	2,028	4,919	478
Fatal cases—amount paid and awarded,	37,499	18,164			8,723	4,847	5,134	2,500	6,272		
Estimated medical cost,											
Degree.											
Fatal,	14	10			2	1	2	1	3		
Serious,	243	101	86	23	83	29	27	101	49	55	8
Sex.											
Male,	255	107	84	18	80	29	29	101	46	39	7
Female,	2	4	2	5	5	1		1	6	16	1
Number of dependents in fatal cases,	20	11			5	3	3	1	5		
Number of dependents in serious cases,	196	99	74	7	47	23	39	56	24	28	2
Total number of dependents,	216	110	74	7	52	26	42	57	29	28	2
Total number of accidents,	257	111	86	23	85	30	29	102	52	55	8

TABLE COVERING COMPENSABLE ACCIDENTS FOR DECEMBER, 1918—Continued.

Cause.	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Machinery.											
Total,	393	85	40	1	45	1	19	10	3	795	21
Boilers and steam pipes,										1	
Boiler explosions,										1	
Prime movers—stationary engines and motors,											
Sudden starting or stopping,											
Power and transmission apparatus,	14	13	2		5					53	3
Belts and pulleys,	6	2	1		1					17	
Chains and sprockets,	2	3			2					11	1
Cogs, gears, etc.,	3	1	1							8	
Fly wheels,	1	1								2	1
Operating or repairing apparatus (electrical),										1	1
Operating or repairing apparatus (not electrical),										1	
Ropes, cables and drums,	1	4			1					9	
Set screws, keys and bolts,		2								2	
Shafts and couplings,	1									1	
Unguarded and uncovered switches,											
All others,					1					1	
Elevators,	13	5	4				4	1	1	40	2
Cable breaking,			3							3	
Cable unwinding,	1									4	
Cable—caught by,	2	1	1				1			8	
Car—caught by,	5	2					2	1		14	2
Car—struck by,	1									1	

Counterweight—struck by,									1	2	
Defective equipment,											
Entering or leaving car,											
Fall of car,	1	1								2	
Fall of person,	2	1								4	
Falling objects,											
	1						1			2	
Cranes, hoisting apparatus, etc.,	88	8	9		7				1	128	8
Cable catching person,	16	3	1		1					23	
Car striking person,	4				1					5	
Cleaning, oiling or repairing.											
Falling objects (other than load),	8		2							10	
Falls from,	3				1					6	2
Load falling,	19	1	2		2					27	3
Run over by,											
Struck by load or tackle (not falling),	34	3	4		2				1	49	2
All others,	4	1								8	1
Working machines,	278	59	25	1	33	1	15	9	1	573	8
Adjusting machine or work,	51	3	4		4					79	
Breaking of machine or work,	13	3	2		3					23	1
Cleaning,	3	1								17	
Emery wheels (bursting),	3									3	1
Flying objects,	48	30	6		6					99	2
Oiling,	6	2								11	1
Operating or feeding,	111	7	5		10	1	3			206	1
Repairing,	6	3	4		1					18	1
Saws,	4	1		1	4					25	
Starting or stopping,	26	7	4		5		12	9		81	
All others,	7	2							1	11	1
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	148	77	24		10	1	3	1	1	311	30
Corrosive substances,	1	1			1					4	
Electricity,	12	10	14		2					40	7
Cutting or welding,											
Explosives,	18	59	1		3		1			96	17

TABLE COVERING COMPENSABLE ACCIDENTS FOR DECEMBER, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Acetylene,											
Carbon dioxide,		1								1	
Compressed air,		1								1	
Dust,	1									1	
Dynamite, powder or nitro-glycerine,	3	28			1					37	9
Gas,	4	27	1		1					37	3
Gasoline,							1			2	1
Manufacturing or storing,											
Transporting or handling,											
All others,	10	2			1					18	4
Hot substances or flames,	117	7	9		4	1	2	1	1	171	6
Asphalt, pitch or tar,	1									6	
Cutting or welding (not electrical),											
Flames,	13	4	3				1			26	1
Hot water,	15	3	4				1			33	1
Molten metal—explosion of,	1									1	
Molten metal or slag (all others),	57		1							61	3
Other hot substances (scalds),	28		1		4	1		1		41	
All others,											
Conflagration,	2								1	3	1
Falling Objects.											
Total,	159	525	16		23		5			799	58
Rock and earth,	2	32	1		2		1			51	3
Collapse of buildings or walls,	1									3	1
Collapse of scaffolds or stagings,	2	2	1		3					15	

Collapse of piled up material,	18	1	3		2					31	1	
Fall of roof (mines),	1	447					2			453	46	
Objects dropped by other persons,	11	3	2		2					21		
Objects falling from trucks or vehicles (not loading or unloading),	14	3	3				1			25		
Objects falling from buildings, trestles or scaffolds,	81	18	4		9		1			142	6	
All others,	29	19	2		5					58	1	
Fall of Persons.												
Total,	131	101	40		49	5	29	9	5	515	22	
From ladder,	12	2	5		5	1	3	1		43	1	
From scaffolds or platforms,	12	7	5		12		1	1		60	2	
From vehicles,	6	7	3		9		9	1	1	53	2	
From structures in course of erection,	1									10	1	
From structures (all others),	3	1	4		2					20	1	
From other elevations,	13	6	5		2		3			43	2	
Into excavations,	2	3								11	2	
Into other openings,	9	8	3		3		1	1	1	31	5	
On level,	67	63	10		12	1	9	4	2	212	4	
Stairways,	4	1	4		2	3	3		2	23	2	
All others,	2	3	1		2			1		9		
Handling of Tools or Objects.												
Total,	434	272	77		39	5	24	7	1	1,079	2	
Carrying or lifting objects (not loading or unloading),	240	133	30		13	2	12	6		541	1	
Chipping or grinding,	12	5	2		1					24		
Handling of sharp objects,	14	7	1		1	1	2			43		
Loading or unloading,	19	15	11		5		1			69		
Tools in hands of injured person,	132	108	26		16	2	8	1		360	1	
Tools in hands of fellow workmen,	15	4	6		2		1		1	37		
All others,	2		1		1					5		
Power Vehicles.												
Total,	115	385	90		16		9	8	6	701	64	
Collisions,	2	14	6		1			2		28	3	
Coupling or uncoupling cars,	14	46	8		1					73	6	
Defective equipment,	1									2		
Derailment—replacing cars,	4	55	3							64	4	
Fell from, over or into,	17	34	19		1					79	5	
Improperly loaded ladles or cars,												
Loading or unloading material,	31	38	16		3		2	3	2	114	1	
Not on track,	13	8	5		4		4	1	4	57	4	
Struck by car or engine,	27	157	29		6		3	2		241	37	
Struck by overhead or side obstructions,	3	26	4							33	4	
Sudden starting or stopping,												
All others,	3	7								10		

TABLE COVERING COMPENSABLE ACCIDENTS FOR DECEMBER, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and wholesalers.	Municipalities.	Total.	Total accidents by cause.
Stepping on Sharp Objects.											
Total,	5	10								26	
Nails,	4	10								23	
All others,	1									3	
Running Into or Striking Against Objects.											
Total,	38	35	11		5	5				118	1
Poisonous Substances.											
Total,	2	2				1				5	
Miscellaneous.											
Total,	60	76	16		24	3	7	3	2	241	30
Acids and liquids,	6	1								14	1
Animals,	1	28	1		3		3	1		44	2
Asphyxiation or suffocation,	9	1			1					15	13
Doors, windows or gates (exclusive of elevator gates),	10	6	3		4		1			29	
Drowning,		1			2					3	3
Flying objects (not from machines, tools or explosives)	23	27	7		8		1		1	79	2
Frost bites,										1	
Heat prostration,	2		1		1	1				7	5
Intentional violence,	1	2 2	3				1		1	10	2
Lightning,											
All others,	8	2 10	1		5	1	1	2		39	2

Nature of Injury.											
Total,	1,485	1,568	314	1	211	21	96	38	18	4,590	228
Burns and scalds,	168	62	22		8	2	2	1		310	
Crushes and bruises,	534	695	133		57	4	35	10	9	1,780	
Cuts and lacerations,	338	357	64	1	54	8	22	4	3	1,043	
Fractures, sprains and dislocations,	348	377	72		74	1	32	19	6	1,150	
Hernia,	19	21	9		2	1	1	1		71	
Blood poisoning,	40	25	7		6	1	3	1		113	
Punctures,	20	22			1					55	
Unclassified,	18	9	7		9	4	1	2		68	
Loss of Parts.											
Total,	65	53	10		10		1	1		167	
Eyes,	23	24	3		6		1	1		66	
Arms,	3	3			1					10	
Hands,	11	7								23	
Fingers,	22	7	3		2					40	
Legs,	2	4	2							10	
Feet,	4	7	2		1					16	
Toes,		1								2	
Social Condition.											
Total,	1,485	1,568	314	1	211	21	96	38	18	4,590	
Married,	890	1,013	204		117	11	48	23	12	2,810	
Single,	487	525	95	1	80	8	38	14	4	1,534	
Not given,	108	30	15		14	2	10	1	2	246	
Compensation.											
Amount paid—disability cases,	119,673	135,791	22,495	39	18,969	877	4,742	3,312	1,220	378,868	
Fatal cases—amount paid and awarded,	123,654	305,762	36,097		35,843	5,136	9,956	6,545	8,590	604,722	
Estimated medical cost,											
Degree.											
Fatal,	46	91	35		13	2	3	2	3	228	
Serious,	1,439	1,477	279	1	198	19	93	36	15	4,362	
Sex.											
Male,	1,460	1,568	307	1	207	15	91	37	17	4,498	
Female,	25		7		4	6	5	1	1	92	
Number of dependents in fatal cases,	89	228	23		28	6	6	3	7	438	
Number of dependents in serious cases,	1,295	971	236		110	20	51	21	1	3,300	
Total number of dependents,	1,384	1,199	259		138	26	57	24	8	3,738	
Total number of accidents,	1,485	1,568	314	1	211	21	96	38	18	4,590	

GROUP NO. 4. SUMMARY.

A summary of preceding tables is given in the following pages.

SUMMARY OF ALL ACCIDENTS REPORTED IN 1918.

Industries.	Nature of Injury.								Part Injured.					
	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.	Fractures, sprains and dislocations.	Hernia.	Blood poisoning.	Punctures.	Unclassified.	Trunk.	Head and face.	Eyes.	Arms.	Hands.	Fingers.
Building and contracting,	353	3,404	2,093	2,272	76	220	620	152	1,803	930	366	584	1,019	1,377
Chemicals and allied products,	600	868	590	614	29	125	87	126	706	326	203	175	343	444
Clay, glass and stone products,	244	1,599	1,684	825	68	100	136	71	678	368	254	305	767	968
Clothing manufactures,	25	313	394	156	8	73	117	21	124	32	20	66	162	554
Food and kindred products,	148	1,021	838	678	28	129	100	49	516	193	51	247	493	691
Leather and rubber goods,	78	474	420	264	9	92	63	24	191	80	33	108	197	530
Liquor and beverages,	25	303	235	234	9	35	13	23	189	46	18	71	144	186
Lumber and its remanufacture,	48	953	1,318	865	25	92	79	38	449	167	90	172	410	1,009
Paper and printing industries,	105	750	517	361	14	42	63	26	259	109	47	147	252	643
Textiles,	135	691	678	438	23	116	96	32	295	138	51	220	356	665
Laundries,	29	73	27	82	3	7	4	8	40	9	1	24	47	54
Metals and metal products,	6,218	19,970	17,319	9,434	544	1,656	1,270	723	6,976	3,950	5,314	3,035	6,250	13,478
Mines and quarries,	1,867	22,184	15,350	9,564	335	733	1,428	422	9,967	5,692	3,180	2,451	5,243	9,736
Public service,	2,005	14,976	6,803	7,667	219	202	506	247	6,413	3,288	1,682	1,783	3,340	5,126
Tobacco and its products,	6	47	30	33	--------	3	12	5	17	10	--------	10	24	25
Miscellaneous,	313	2,371	1,617	1,827	97	224	205	172	1,270	711	309	477	673	1,070
Hotels and restaurants,	74	154	184	156	21	47	16	17	129	32	3	71	137	157
Jobbers and wholesalers,	19	320	140	268	21	19	40	13	215	56	16	71	106	98
Mercantile establishments,	60	1,051	613	917	36	106	120	67	680	231	57	282	452	395
Municipalities,	42	309	171	358	11	24	22	31	259	106	32	80	100	65
Total,	12,394	71,831	51,021	36,713	1,576	4,045	4,997	2,267	31,176	16,474	11,727	10,379	20,515	37,265

SUMMARY OF ALL ACCIDENTS REPORTED IN 1918—Continued.

Industries.	Part Injured.			Loss of Parts.							Degree and Sex.					
											Male.			Female.		
	Legs.	Feet.	Toes.	Eyes.	Arms.	Hands.	Fingers.	Legs.	Feet.	Toes.	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.
Building and contracting,	1,075	1,671	365	15	3	5	42	10	5	9	221	3,062	5,879	------	7	21
Chemicals and allied products,	290	438	114	6	------	2	22	1	------	1	168	951	1,820	1	28	71
Clay, glass and stone products,	473	653	261	5	4	2	16	3	6	------	40	1,089	3,449	------	22	127
Clothing manufactures,	48	83	18	1	------	------	7	------	------	------	1	214	396	1	111	384
Food and kindred products,	248	420	132	------	------	5	33	------	1	1	31	903	1,825	1	60	171
Leather and rubber goods,	105	136	44	------	------	2	16	------	------	------	8	351	972	------	17	76
Liquor and beverages,	93	106	36	1	------	------	2	------	------	------	19	290	557	------	1	10
Lumber and its remanufacture,	323	399	99	5	1	4	75	------	1	11	22	1,092	1,907	------	22	75
Paper and printing industries,	131	216	74	------	2	3	34	------	------	1	21	489	1,140	1	80	155
Textiles,	159	250	75	2	2	7	32	------	1	1	15	525	1,096	1	152	420
Laundries,	30	24	4	1	------	------	------	------	1	------	2	64	89	------	27	51
Metals and metal products,	4,594	8,862	4,675	37	11	33	524	24	28	76	552	14,900	40,838	5	191	648
Mines and quarries,	6,437	7,042	2,135	53	6	25	190	33	17	38	1,263	15,322	35,280	------	5	10
Public service,	3,772	5,313	1,908	9	27	5	81	54	46	18	740	8,984	22,630	5	81	221
Tobacco and its products,	15	29	6	------	------	------	------	------	------	------	1	44	65	------	7	19
Miscellaneous,	841	1,130	345	7	2	4	41	1	2	4	143	2,415	3,996	5	103	164
Hotels and restaurants,	60	70	10	------	------	------	2	1	------	------	11	231	236	3	79	109
Jobbers and wholesalers,	96	152	30	3	------	------	4	------	------	------	17	322	473	------	7	21
Mercantile establishments,	348	444	81	4	1	------	23	2	------	------	40	1,026	1,548	1	98	257
Municipalities,	150	157	19	2	1	1	4	2	------	------	61	430	445	------	25	7
Total,	19,288	27,595	10,425	151	69	98	1,148	131	108	160	3,379	52,660	124,641	24	1,123	3,017

SUMMARY OF ALL ACCIDENTS REPORTED IN 1918—Continued.

Industries.	Time and Wage Loss.		Social Condition.			Minors Under 16 Years.		Number of dependents.	Accident due to lack of safeguards.	Total number of accidents.
	Days.	Wages.	Married.	Single.	Not given.	Males.	Females.			
Building and contracting,	147,357	$601,136	5,224	3,084	882	30		6,735	580	9,190
Chemicals and allied products,	47,495	164,166	1,798	1,070	171	14	4	2,632	216	3,039
Clay, glass and stone products,	64,403	227,189	2,757	1,816	154	62	6	4,434	637	4,727
Clothing manufactures,	16,519	43,302	338	661	108	51	36	432	101	1,107
Food and kindred products,	46,899	143,775	1,665	1,108	218	35	8	2,086	231	2,991
Leather and rubber goods,	19,151	59,516	791	568	65	28	3	1,134	162	1,424
Liquor and beverages,	14,159	46,459	604	243	30	5		884	59	877
Lumber and its remanufacture,	52,371	157,726	1,819	1,074	225	56	4	2,274	228	3,118
Paper and printing industries,	27,545	75,276	874	893	111	50	5	1,068	293	1,878
Textiles,	33,831	111,830	986	1,065	158	89	37	1,000	174	2,209
Laundries,	4,617	11,196	121	97	15	4	2	109	14	233
Metals and metal products,	789,517	3,164,629	33,831	20,918	2,384	240	7	54,730	6,108	57,134
Mines and quarries,	811,657	3,040,304	32,465	18,270	1,148	322		38,045	246	51,883
Public service,	464,710	1,707,861	21,394	9,653	1,578	37	1	30,100	958	32,625
Tobacco and its products,	2,701	6,556	78	50	8	4		84	7	136
Miscellaneous,	117,010	434,813	3,670	2,475	681	52	7	4,492	299	6,826
Hotels and restaurants,	14,578	30,238	306	289	74	2		272	21	639
Jobbers and wholesalers,	15,954	51,515	497	284	59	8	1	538	34	840
Mercantile establishments,	55,668	145,180	1,351	1,247	372	59	9	1,391	96	2,970
Municipalities,	21,329	64,211	703	218	47	3		820	54	968
Total,	2,767,471	$10,286,872	111,272	65,084	8,488	1,151	130	153,290	10,512	184,844

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918.

	Cause.										Nature of Injury.		
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling of tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against sharp objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.
Building and Contracting.													
Brick, cement and stone work,	2		4	10	2	2						12	3
Building construction,	3	1	10	22	2	14		1		4		29	4
Electrical construction,		2									1		
Painting and decorating,		3		8		1				1	1	5	
Paving and road construction,	1		1	4		3						4	1
Plumbing and heating,				2	1					1		2	
Railway construction,	2	2		1		15				1	1	11	5
Roofing and sheet metal work,	1	1		8		1					1	5	
Structural Iron work (erecting),	7	1	6	7	1					1		8	1
Unclassified,	4	6	14	7	3	20				7	4	28	8
Total,	20	16	35	69	9	56		1		15	8	104	22
Chemicals and Allied Products.													
Alcohol,													
Charcoal,													
Chemicals,		4		1		2				8	6	3	1
Cleaning and polishing preparations,													
Dyestuffs and extracts,	1									1	1		1
Fertilizers,	1											1	
Fireworks,													
Flavoring preparations,													
Glue and gelatin,		1								1	1		
Graphite and graphite refining,													
Grease and tallow,		1									1		
Ink, printing,													

Ink, writing,													
Malt and yeast,													
Matches,													
Mucilage and paste,													
Oils, crude,	5	1		1		1					1	6	
Oils, essential,													
Oils, linseed,													
Oils, lubricating,													
Oils, refined, kerosene, etc.,	1		1	1	1	1				1	2		
Oils, not specified,													
Paints and varnishes,				1									
Patent and proprietary medicines,													
Powder and other explosives,	1	117			1	1				6	109	6	4
Soap,			1										1
Sulphuric, nitric and mixed acids,		3									1		
Tar,										1			
Toilet preparations,													
Turpentine and resin,													
Wood alcohol and acetate of lime,	1												
Unclassified,													
Total,	10	128	2	4	2	5				18	122	16	7
Clay, Glass and Stone Products.													
Artificial stone,													
Brick,	6	1	4	1		3				2		11	1
Cement,	2	3	4			2					2	1	2
Crucibles,													
Emery and other abrasive wheels,													
Glass bottles,													
Glass, cut,													
Glass, decorative,													
Glass, plate,	1					3						2	1
Glass, table ware,													
Glass, window,					1								1
Grindstones,													
Hones and whetstones,													
Lamps and chimneys,													
Lime,	1					1						1	1
Mantels and tile,		1									1		
Marble and granite work,													
Mirrors,													
Paving material,			2										
Pottery, Terra cotta and fire clay products,	1					1						2	1
Wall plaster,													
Unclassified,													
Total,	11	5	10	1	1	10				2	3	17	7

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Cause.										Nature of Injury.		
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling of tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against sharp objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.
Clothing Manufacture.													
Clothing, men's,				1								1	
Clothing, women's and children's,													
Corsets,													
Fur goods,													
Furnishing goods, not specified,													
Gloves, other than leather,													
Hats and caps, other than straw,													
Hats, straw,													
Hosiery and knit goods,	1												
Ladies' skirts,													
Millinery,													
Neckwear,													
Overalls,													
Shirts,													
Shirtwaists,													
Suspenders,													
Underwear,													
Unclassified,													
Total,	1			1								1	
Food and Kindred Products.													
Baking powder,													
Bread and other bakery products,	2			1		3						3	2
Butter, cheese and condensed milk,						1							1
Canned and preserved goods,		2									2		

Cordials and syrups,	1		1		1	1						1		
Coffee and spices, roasting, etc.,						1						1		
Confectionery,	2											1		
Chocolate and cocoa products,														
Flour and grist mill products,	1		1	2		1						2		
Ice cream,						1				1		1		
Glucose and starch,														
Ice,				1	1	1				4		4		
Molasses,														
Slaughtering and meat packing,	2									1			1	
Sugar refining,														
Vinegar and cider,														
Unclassified,														
Total,	8	2	2	4	2	8				6	2	13	4	
Leather and Rubber Goods.														
Belting and hose,														
Boots and shoes,				1						1				
Boots and shoes, rubber,					1									
Gloves, leather,														
Hides and skins,														
Leather, sole,														
Leather, tanned, curried and finished,					1					3		1		
Leather goods,														
Rubber goods, not specified,										1				
Trunks and suit cases,														
Unclassified,														
Total,				1	2					5		1		
Liquors and Beverages.														
Carbonated beverages,						1								
Liquors, distilled,														
Liquors, malt,		1		6	1	5				5		5	1	
Liquors, vinous,														
Table waters,														
Unclassified,														
Total,		1		6	1	6				5		5	1	
Lumber and its Remanufacture.														
Barrels, kegs and tanks,														
Beds and cots,														
Billiard tables and supplies,														
Bobbins and spools,														
Boxes, cigar,						1							1	

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Cause.										Nature of Injury.		
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling of tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against sharp objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.
Boxes, packing,													
Carriages, wagons and parts,	1												
Children's carriages, sleds, etc.,													
Cooperage, etc.,													
Furniture,													
Lasts,													
Lumber and timber products,	3		8	1		2					1	7	1
Models and patterns, not paper,													
Planing mill products,			1		1					3		2	
Refrigerators and ice boxes,													
Washing machines and wringers,													
Wood, turned and carved,	1											1	
Wood novelties,													
Unclassified,													
Total,	5		9	1	1	3				3	1	10	2
Paper and Printing Industries.													
Bags, paper,													
Boxes, fancy and paper,						1						1	
Card cutting and designing,													
Electroplating, engraving and die sinking,													
Labels and tags,				1								1	
Paper goods, not specified,				1		2						1	1
Photo engraving,													
Printing and publishing,				3		5				1		4	3
Pulp goods,	1	2			1					1	2	2	
Roofing paper,										1			

Sand and emery paper and cloth,													
Stationery goods, not specified,													
Stereotyping and electrotyping,													
Wall paper,	1									1			
Unclassified,													
Total,	2	2		5	1	8				4	2	9	4
Textiles.													
Bags, other than paper,													
Blankets, flannels, etc.,													
Braids, tapes and bindings,													
Carpets and rugs,													
Cordage and twine, jute and linen goods,													
Cotton goods,					1								
Curtains,													
Dyeing and finishing textiles,				1		1						2	
Haircloth,													
Hammocks,													
Handkerchiefs and embroideries,													
Horse blankets and robes,													
Shoddy,													
Silk and silk goods and throwsters,	1			2		1						1	1
Thread,													
Towels,													
Waste,				1									
Wool pulling,													
Woolen, worsted and felt goods,	2			1									2
Yarns,	2											1	1
Unclassified,		1		2								2	
Total,	5	1		7	1	2						6	4
Laundries.													
Laundry work,				1						1	1		1
Unclassified,													
Total,				1						1	1		1
Metals and Metal Products.													
Agricultural implements and machines,				1								1	
Aluminum and its products,													
Automobile and parts,					1	1							1
Axes and edge tools,	1											1	
Axles,			1										
Babbit metal and solder,													
Bars, lead and lead sheets,													

	Cause.										Nature of Injury.		
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling of tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against sharp objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.
Bars, iron and steel,	4	2	1	1	1	6		1		2	3	7	1
Beds and bed springs,													
Bicycles, motorcycles and parts,													
Billets, blooms and slabs,	70	49	25	15	2	72		1		51	47	86	22
Boilers, tanks and stacks,	1			1						1		1	
Bolts, nuts and rivets,		8			1						8	1	
Brass and bronze products,													
Cars and car wheels,	6	1	1	1		1				3		3	
Castings, iron and steel,	17	6	5		2	5				4	6	14	7
Chairs,													
Cornices, ceilings, ventilators, etc.,													
Cutlery,													
Elevators and hoists,	1											1	
Engines, gas and gasoline,						1						1	
Engines, railroad,	9	1	1	4		2				2		7	2
Engines, stationary,	2		1		1							2	
Engines, traction,													
Ferro alloys,		1								1			
Files,					1								
Fire escapes,	1											1	
Firearms and ammunition,	3	8	2	3		1		1		1	5	5	3
Fixtures, gas and electric lamps and reflectors,													
Forgings, iron and steel,	2	1											1
Frogs and switches,													
Hardware and specialties,	2		3			1						3	1
Hoops, bands and cotton ties,		1				1					1	1	
Horse shoes,													
Ingots, iron and steel,	2		1			2		1				5	1
Iron, charcoal,													

Iron, pig,	3	1		2	1	4					2	4	2
Iron and steel work, ornamental,													
Instruments, professional and scientific,										1			
Machinery and parts,	8			2	3	2					1	6	1
Machine repair shops,		1			2	1					1	1	
Machine tools,		2									2		
Meters,													
Motors, dynamos, generators, etc.,	2	1	1			1		1		1		2	2
Nails and spikes,	1					1					1		1
Needles, pins, hooks and eyes,													
Piling, rolled sheet,													
Pipes and tubing,	5	2	5	2		2				3	2	6	1
Plates, iron and steel,	2	1		1							1	2	
Plumbers' supplies and steam fittings,													
Pulleys, hangers and bearings,													
Pumps and valves,			1									1	
Rails, iron and steel,													
Radiators,						1							
Railroad supplies,				1									1
Rods, steel, in coils,													
Safes, vaults and locks,													
Saws,										2			
Scales,													
Scrap iron and steel,	2									1		1	1
Shafting, cold rolled, drawn and turned,	1											1	
Shapes, structural,	4		6		1	2				1	1	8	1
Shapes, other iron and steel,	2		1										1
Sheets,	1	1	2								1	1	
Shovels, scoops and spades,				1									
Silverware and plated ware,													
Smelting and refining,		1				2					1	1	
Springs,													
Stoves, heaters and ranges,			1	1		1						1	1
Supplies, electrical,													
Tin and terne plate,	2		1	1	1					1		1	
Tinners' and roofers' supplies,													
Type founding,													
Typewriters,													
Ware, tin and stamped,										1		1	
Ware, enamel and galvanized,													
Watches, clocks, jewelry, etc.,													
Wire products,	1									4			2
Garages making repairs,						6				1		4	
Unclassified,													
Total,	155	88	58	37	17	116		5		81	83	181	53

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Cause.										Nature of Injury.		
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling of tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against sharp objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.
Mines and Quarries.													
Clay,		1	2			1						3	
Ore, iron,		1				1							1
Sand and gravel,	5		2		1	1				3	2	6	1
Slate, roofing,	1	1		1							1	1	
Slate, other than roofing,			1										
Stone,	1	2	2	1		5						4	4
Stone, cut,													
Stone, crushed,	2	1	2			2						4	
Coal, anthracite,	38	98	291	18	8	134		2		36	39	320	66
Coal, bituminous,	22	46	317	15	10	159		4	1	27	24	300	56
Unclassified,													
Total,	69	150	617	35	19	303		6	1	66	66	638	128
Public Service.													
Repair shops,	3	3	3	2	3	20		1		4	2	18	7
Auto transit companies,					1	4						2	
Canal and navigation companies,				5		2				8		3	1
Electric light, heat and power companies,	3	22	2	3		1					15		2
Ferry companies,													
Gas companies,	1	1		1		1				2	1	2	
Gas companies, natural,	1		1							1	1	1	
Gas and electric companies,		2	1								2		
Inclined plane companies,													
Pipe line companies,													
Municipal sewage treatment works,													

Steam heating companies,													
Steam railroads,	14	19	5	8	4	518			1	14	28	286	180
Electric railway companies,		6	1	3		26				1	3	12	9
Telephone companies,		3		2		1				1	2	2	1
Toll bridge companies,						1							1
Turnpike companies,													
Water companies,		1											
Unclassified,	2	1		1		8		1		1	1	4	5
Total,	24	58	13	25	8	582		2	1	32	55	330	206
Tobacco and its Products.													
Cheroots and stogies,						1						1	
Chewing tobacco,													
Cigars,													
Cigarettes,													
Smoking tobacco,													
Unclassified,													
Total,						1						1	
Miscellaneous.													
Artificial flowers, feathers and plumes,													
Awnings, tents and sails,													
Asbestos products,	1			2		1							1
Baskets, rattan and willow ware,													
Brooms,													
Brushes,													
Buttons,													
Caskets and undertakers' supplies,										1			
Coke,													1
Cork cutting,		1	1	1		1							
Curled hair,													
Engineering service,													
Fancy articles and specialties,													
Flags, banners, regalia, emblems, etc.,													
Fuel manufactured,													
Gold and silver leaf, and foil,													
Hair work,													
Handstamps, stencils and brands,													
House furnishing goods, not specified,													
Junk—paper, rags, etc.,												1	
Laboratory service,			1										
Mats and matting,													
Mattresses and bedding,													
Musical instruments, not specified,													
Nursery products,													
Oil cloth and linoleum,			1										

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Cause.										Nature of Injury.		
	Machinery.	Explosives, electricity, fires, hot and corrosive substances.	Falling objects.	Fall of persons.	Handling of tools and objects.	Power vehicles.	Stepping on sharp objects.	Running into or striking against sharp objects.	Poisonous substances.	Miscellaneous.	Burns and scalds.	Crushes and bruises.	Cuts and lacerations.
Optical goods,													
Packing—steam, etc.,													
Pens and pencils,													
Photographic apparatus and supplies,													
Pianos and organs,													
Pipes—tobacco,													
Plants and flowers,	1				1								
Signs,													
Ship and boat building,	20	3	12	29	3	12		1		11	1	17	8
Soda water apparatus,													
Sporting and athletic goods,													
Statuary and art goods,													
Surgical appliances and artificial limbs,													
Teeth,													
Toys and games,										1			
Umbrellas and parasols,													
Upho'stering,													
Wheelbarrows,													
Window shades and fixtures,													
Oil well supplies,	1	1				1						2	
Unclassified,	7	4	1	10	1	9				8	6	11	2
Total,	30	9	16	42	5	24		1		21	7	31	12
Hotels and restaurants,	2	2		5	2	2				1	3	6	
Mercantile establishments,	2	6	5	6	2	15		1		4	5	15	6

Jobbers and warehouses,	2	2	1	5	1	3	----	----	----	3	2	9	----
Municipalities,	2	4	14	10	3	7	----	1	----	20	1	21	10
Grand totals,	348	474	782	265	77	1,151	----	17	2	287	361	1,414	467

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Nature of Injury.					Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Fractures, sprains and dislocations.	Hernia.	Blood poison.	Puncture.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Building and Contracting.														
Brick, cement and stone work,	5					20		14	6	15	20			20
Building construction,	19		1		4	57		38	19	53	57			57
Electrical construction,					1	2			2		2			2
Painting and decorating,	4				3	13		7	6	5	13			13
Paving and road construction,	3				1	9		8	1	5	9			9
Plumbing and heating,			1		1	4		2	2	5	4			4
Railway construction,	1			1	2	21		18	3	24	21			21
Roofing and sheet metal work,	3				2	11		6	5	10	11			11
Structural Iron work (erecting),	10	1	1		2	23		9	14	10	23			23
Unclassified,	13			1	7	61		44	17	73	61			61
Total,	58	1	3	2	23	221		146	75	200	221			221
Chemicals and Allied Products.														
Alcohol,														
Charcoal,														
Chemicals,					5	15		9	6	10	15			15
Cleaning and polishing preparations,														
Dyestuffs and extracts,						2		1	1		2			2
Fertilizers,						1		1			1			1
Fireworks,														
Flavoring preparations,														
Glue and gelatin,				1		2		2		2	2			2
Graphite and graphite refining,														
Grease and tallow,						1			1		1			1
Ink, printing,														

Ink, writing,														
Malt and yeast,														
Matches,														
Mucilage and paste,														
Oils, crude,	1					8		8		9	8			8
Oils, essential,														
Oils, linseed,														
Oils, lubricating,														
Oils, refined, kerosene, etc.,	4		1			7		5	2	2	7			7
Oils, not specified,														
Paints and varnishes,	1					1		1		5	1			1
Patent and proprietary medicines,														
Powder and other explosives,	1				6	125	1	64	62	89	126			126
Soap,						1		1			1			1
Sulphuric, nitric and mixed acids,					2	3		2	1		3			3
Tar,					1	1		1			1			1
Toilet preparations,														
Turpentine and resin,														
Wood alcohol and acetate of lime,	1					1		1		3	1			1
Unclassified,														
Total,	8		1	1	14	168	1	96	73	120	169			169

Clay, Glass and Stone Products.

Artificial stone,														
Brick,	2				3	17		14	3	41	17			17
Cement,	5				1	11		11		27	11			11
Crucibles,														
Emery and other abrasive wheels,														
Glass bottles,														
Glass, cut,														
Glass, decorative,														
Glass, plate,	1					4		3	1	7	4			4
Glass, table ware,														
Glass, window,						1			1		1			1
Grindstones,														
Hones and whetstones,														
Lamps and chimneys,														
Lime,						2			2		2			2
Mantels and tile,						1			1		1			1
Marble and granite work,														
Mirrors,														
Paving material,														
Pottery, Terra cotta and fire clay products,	1					4		3	1	5	4			4
Wall plaster,														
Unclassified,														
Total,	9				4	40		31	9	80	40			40

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Nature of Injury.					Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Fractures, sprains and dislocations.	Hernia.	Blood poison.	Puncture.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Clothing Manufacture.														
Clothing, men's,						1		1			1			1
Clothing, women's and children's,														
Corsets,														
Fur goods,														
Furnishing goods, not specified,														
Gloves, other than leather,														
Hats and caps, other than straw,														
Hats, straw,														
Hosiery and knit goods,	1					1			1		1			1
Ladies' skirts,														
Millinery,														
Neckwear,														
Overalls,														
Shirts,														
Shirtwaists,														
Suspenders,														
Underwear,														
Unclassified,														
Total,	1					2		1	1		2			2
Food and Kindred Products.														
Baking powder,														
Bread and other bakery products,	1					6		5	1	9	6			6
Butter, cheese and condensed milk,						1		1		1	1			1

Canned and preserved goods,						2		1	1	3	2			2
Chocolate and cocoa products,			1		1	3		2	1	1	3			3
Coffee and spices, roasting, etc.,						1			1		1			1
Confectionery,	1					1	1	1	1		2			2
Cordials and syrups,														
Flour and grist mill products,	3					5		4	1	3	5			5
Ice cream,				1		2		1	1	1	2			2
Glucose and starch,														
Ice,					3	7		5	2	3	7			7
Molasses,														
Slaughtering and meat packing,	1				1	3		2	1	5	3			3
Sugar refining,														
Vinegar and cider,														
Unclassified,														
Total,	6		1	1	5	31	1	22	10	26	32			32
Leather and Rubber Goods.														
Belting and hose,														
Boots and shoes,	1				1	2		1	1		2			2
Boots and shoes, rubber,	1					1		1		4	1			1
Gloves, leather,														
Hides and skins,														
Leather, sole,														
Leather, tanned, curried and finished,			1		2	4		4		7	4			4
Leather goods,														
Rubber goods, not specified,					1	1		1		1	1			1
Trunks and suit cases,														
Unclassified,														
Total,	2		1		4	8		7	1	12	8			8
Liquors and Beverages.														
Carbonated beverages,	1					1		1		2	1			1
Liquors, distilled,														
Liquors, malt,	6	1			5	18		15	3	7	18			18
Liquors, vinous,														
Table waters,														
Unclassified,														
Total,	7	1			5	19		16	3	9	19			19
Lumber and its Remanufacture.														
Barrels, kegs and tanks,														
Beds and cots,														
Billiard tables and supplies,														
Bobbins and spools,														

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Nature of Injury.					Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Fractures, sprains and dislocations.	Hernia.	Blood poison.	Puncture.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Boxes, cigar,						1			1		1			1
Boxes, packing,														
Carriages, wagons and parts,	1					1		1			1			1
Children's carriages, sleds, etc.,														
Cooperage, etc.,														
Furniture,														
Lasts,														
Lumber and timber products,	5					14		9	5	2	14			14
Models and patterns, not paper,														
Planing mill products,	2		1			5		3	2		5			5
Refrigerators and ice boxes,														
Washing machines and wringers,														
Wood, turned and carved,						1		1		1	1			1
Wood novelties,														
Unclassified,														
Total,	8		1			22		14	8	3	22			22
Paper and Printing Industries.														
Bags, paper,														
Boxes, fancy and paper,						1		1			1			1
Card cutting and designing,														
Electroplating, engraving and die sinking,							1		1		1			1
Labels and tags,						3		2	1	4	3			3
Paper goods, not specified,	1													
Photo engraving,														
Printing and publishing,	1				1	9		6	3	1	9			9
Pulp goods,					1	5		4	1	2	5			5

Roofing paper,					1	1		1			1			1
Sand and emery paper and cloth,														
Stationery goods, not specified,														
Stereotyping and electrotyping,														
Wall paper,	1				1	2		1	1		2			2
Unclassified,														
Total,	3				4	21	1	15	7	7	22			22
Textiles.														
Bags, other than paper,														
Blankets, flannels, etc.,														
Braids, tapes and bindings,														
Carpets and rugs,														
Cordage and twine, jute and linen goods,														
Cotton goods,			1			1		1			1			1
Curtains,														
Dyeing and finishing textiles,						2		1	1		2			2
Haircloth,														
Hammocks,														
Handkerchiefs and embroideries,														
Horse blankets and robes,														
Shoddy,														
Silk and silk goods and throwsters,	2					4		1	3		4			4
Thread,														
Towels,														
Waste,	1					1			1		1			1
Wool pulling,														
Woolen, worsted and felt goods,					1	2	1	2	1		3			3
Yarns,						2		1	1		2			2
Unclassified,	1					3		1	2		3			3
Total,	4		1		1	15	1	7	9		16			16
Laundries.														
Laundry work,						2		1	1		2			2
Unclassified,														
Total,						2		1	1		2			2
Metals and Metal Products.														
Agricultural implements and machines,						1		1		5	1			1
Aluminum and its products,														
Automobile and parts,		1				2		1	1		2			2
Axes and edge tools,						1		1			1			1
Axles,	1					1			1		1			1
Babbit metal and solder,														

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Nature of Injury.					Sex.		Social Condition.		Number of dependents.	Class.			Total.
	Fractures, sprains and dislocations.	Hernia.	Blood poison.	Puncture.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Bars, lead and lead sheets,														
Bars, iron and steel,	5			1	1	18		12	6	14	18			18
Beds and bed springs,														
Bicycles, motorcycles and parts,														
Billets, blooms and slabs,	79	4	1	2	44	283	2	196	89	363	285			285
Boilers, tanks and stacks,	1				1	3		2	1	4	3			3
Bolts, nuts and rivets,						8	1	5	4	4	9			9
Brass and bronze products,														
Cars and car wheels,	8				2	13		9	4	5	13			13
Castings, iron and steel,	10				2	39		32	7	34	39			39
Chairs,														
Cornices, ceilings, ventilators, etc.,														
Cutlery,														
Elevators and hoists,						1			1		1			1
Engines, gas and gasoline,						1		1			1			1
Engines, railroad,	7		2		1	19		13	6	23	19			19
Engines, stationary,	2					4		2	2	4	4			4
Engines, traction,														
Ferro alloys,	1				1	2		1	1		2			2
Files,	1					1			1		1			1
Fire escapes,						1		1		2	1			1
Firearms and ammunition,	3	1			2	16	3	13	6	14	19			19
Fixtures, gas and electric lamps and reflectors,														
Forgings, iron and steel,		1			1	3		2	1	1	3			3
Frogs and switches,														
Hardware and specialties,			1			5		3	2	1	5			5
Hoops, bands and cotton ties,						2		1	1	2	2			2
Horse shoes,														
Ingots, iron and steel,						6		5	1	20	6			6

Iron, charcoal,														
Iron, pig,	3					11		10	1	22	11			11
Iron and steel work, ornamental,														
Instruments, professional and scientific,					1	1			1		1			1
Machinery and parts,	5			1	1	15		10	5	8	15			15
Machine repair shops,	2					4		4			4			4
Machine tools,						2		1	1		2			2
Meters,														
Motors, dynamos, generators, etc.,	3					7		5	2	3	7			7
Nails and spikes,						2		2		5	2			2
Needles, pins, hooks and eyes,														
Piling, rolled sheet,														
Pipes and tubing,	4	1			5	19		17	2	19	19			19
Plates, iron and steel,	1					4		3	1		4			4
Plumbers' supplies and steam fittings,														
Pulleys, hangers and bearings,														
Pumps and valves,						1			1		1			1
Rails, iron and steel,														
Radiators,	1					1		1		2	1			1
Railroad supplies,						1		1			1			1
Rods, steel, in coils,														
Safes, vaults and locks,														
Saws,					2	2		2			2			2
Scales,														
Scrap iron and steel,					1	3		3		1	3			3
Shafting, cold rolled, drawn and turned,						1			1		1			1
Shapes, structural,	2				2	14		11	3	14	14			14
Shapes, other iron and steel,	2					2	1	2	1		3			3
Sheets,	2					4		4		6	4			4
Shovels, scoops and spades,					1	1		1			1			1
Silverware and plated ware,														
Smelting and refining,	1					3		3		8	3			2
Springs,														
Stoves, heaters and ranges,		1				3		3			3			3
Supplies, electrical,														
Tin and terne plate,	5					6		6		8	6			6
Tinners' and roofers' supplies,														
Type founding,														
Typewriters,														
Ware, tin and stamped,						1		1			1			1
Ware, enamel and galvanized,														
Watches, clocks, jewelry, etc.,														
Wire products,					3	5		1	4	6	5			5
Garages making repairs,	2				1	7		4	3	7	7			7
Unclassified,														
Total,	151	9	4	4	72	550	7	396	161	605	557			557

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Nature of Injury.					Sex.		Social Condition.			Class.			
	Fractures, sprains and dislocations.	Hernia.	Blood poison.	Puncture.	Unclassified.	Male.	Female.	Married.	Single.	Number of dependents.	Industrial.	Mines and quarries.	Public service.	Total.
Mines and Quarries.														
Clay,	1					4		3	1	4		4		4
Ore, iron,	1					2		2		2		2		2
Sand and gravel,	1				2	12		9	3	15		12		12
Slate, roofing,			1			3		3				3		3
Slate, other than roofing,	1					1		1		4		1		1
Stone,	3					11		8	3	27		11		11
Stone, cut,														
Stone, crushed,	3					7		5	2	8		7		7
Coal, anthracite,	153	2		3	42	625		433	192	838		625		625
Coal, bituminous,	179	5	3	2	32	601		426	175	770		601		601
Unclassified,														
Total,	342	7	4	5	76	1,266		890	376	1,668		1,265		1,266
Public Service.														
Repair shops,	8		1		3	39		29	10	33			39	39
Auto transit companies,	1				2	5		2	3	2			5	5
Canal and navigation companies,	3				8	15		13	2	11			15	15
Electric light, heat and power companies,	7				7	31		22	9	25			31	31
Ferry companies,														
Gas companies,	2				1	6		5	1	5			6	6
Gas companies, natural,	1					3		3		1			3	3
Gas and electric companies,	1					3		1	2	1			3	3
Inclined plane companies,														
Pipe line companies,														
Municipal sewage treatment works,														

Steam heating companies,															
Steam railroads,	62	1		3	23	579	4	441	142	243			583	583	
Electric railway ocmpanies,	9				4	37		28	9	39			37	37	
Telephone companies,	1				1	7		5	2	4			7	7	
Toll bridge companies,						1		1					1	1	
Turnpike companies,															
Water companies,					1	1		1		2			1	1	
Unclassified,	4					13	1	7	7	10			14	14	
Total,	99	1	1	3	50	740	5	558	187	376			745	745	
Tobacco and its Products.															
Cheroots and stogies,						1			1		1			1	
Chewing tobacco,															
Cigars,															
Cigarettes,															
Smoking tobacco,															
Unclassified,															
Total,						1			1		1			1	
Miscellaneous.															
Artificial flowers, feathers and plumes,															
Awnings, tents and sails,															
Asbestos products,	3					4		1	3		4			4	
Baskets, rattan and willow ware,															
Brooms,															
Brushes,															
Buttons,															
Caskets and undertakers' supplies,					1	1		1			1			1	
Coke,	2				1	4		3	1	2	4			4	
Cork cutting,															
Curled hair,															
Engineering service,															
Fancy articles and specialties,															
Flags, banners, regalia, emblems, etc.,															
Fuel manufactured,															
Gold and silver leaf, and foil,															
Hair work,															
Handstamps, stencils and brands,															
House furnishing goods, not specified,															
Junk—paper, rags, etc.,						1		1			1			1	
Laboratory service,															
Mats and matting,															
Mattresses and bedding,															
Musical instruments, not specified,															
Nursery products,															
Oil cloth and linoleum,	1					1		1			1			1	

SUMMARY OF FATAL ACCIDENTS REPORTED IN 1918—Continued.

	Nature of Injury.					Sex.		Social Condition.		Number of dependants.	Class.			Total.
	Fractures, sprains and dislocations.	Hernia.	Blood poison.	Puncture.	Unclassified.	Male.	Female.	Married.	Single.		Industrial.	Mines and quarries.	Public service.	
Optical goods,														
Packing—steam, etc.,														
Pens and pencils,														
Photographic apparatus and supplies,														
Pianos and organs,														
Pipes—tobacco,														
Plants and flowers,			2			2		2		6	2			2
Signs,														
Ship and boat building,	50	1	3		11	91		58	33	70	91			91
Soda water apparatus,														
Sporting and athletic goods,														
Statuary and art goods,														
Surgical appliances and artificial limbs,														
Teeth,														
Toys and games,					1	1			1		1			1
Umbrellas and parasols,														
Upholstering,														
Wheelbarrows,														
Window shades and fixtures,														
Oil well supplies,					1	3		2	1	3	3			3
Unclassified,	13			1	7	35	5	28	12	17	40			40
Total,	69	1	5	1	22	143	5	97	51	98	148			148
Hotels and restaurants,	2	1	1		1	11	3	9	5	4	14			14

Mercantile establishments,	6	1		8	40	1	27	14	21	41				41
Jobbers and warehouses,	4	1		1	17		12	5	12	17				17
Municipalities,	16	1	1	5	6	61		46	15	41			61	61
Grand totals,	795	22	26	22	296	3,378	25	2,391	1,012	3,282	1,331	1,266	806	3,403

Fatal Accidents by Counties.		Fatal Accidents by Counties.		Fatal Accidents by Counties.		Fatal Accidents by Counties.	
Adams,	1	Clinton,	13	Lancaster,	18	Schuylkill,	167
Allegheny,	618	Columbia,	13	Lawrence,	19	Somerset,	41
Armstrong,	45	Crawford,	11	Lebanon,	14	Sullivan,	2
Beaver,	46	Cumberland,	10	Lehigh,	33	Susquehanna,	8
Bedford,	14	Dauphin,	74	Luzerne,	299	Tioga,	6
Berks,	32	Delaware,	130	Lycoming,	21	Union,	3
Blair,	37	Elk,	14	McKean,	4	Venango,	14
Bradford,	6	Erie,	37	Mercer,	39	Warren,	10
Bucks,	35	Fayette,	148	Mifflin,	16	Washington,	135
Butler,	10	Forest,	4	Monroe,	1	Wayne,	3
Cambria,	124	Franklin,	5	Montgomery,	50	Westmoreland,	144
Cameron,	9	Greene,	9	Northampton,	77	Wyoming,	2
Carbon,	35	Huntingdon,	9	Northumberland,	77	York,	15
Centre,	14	Indiana,	52	Perry,	10		
Chester,	27	Jefferson,	33	Philadelphia,	342	Total,	3,403
Clarion,	12	Juniata,	2	Pike,	2		
Clearfield,	26	Lackawanna,	169	Potter,	2		

SUMMARY OF COMPENSABLE ACCIDENTS, 1918.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its remanufacture.	Paper and printing industries.	Textiles.	Laundries.
Machinery.											
Total,	523	194	254	214	332	195	48	602	406	407	40
Boilers and Steam Pipes: Total,	2	1	2	1	1				2	1	
Boiler explosions,	2	1	2	1	1				2	1	
Prime Movers—Stationary Engines and Motors: Total,		2					1		1		
Sudden starting or stopping,		2					1		1		
Power and Transmission Apparatus: Total,	64	24	42	20	34	9	6	22	28	39	3
Belts and pulleys,	9	12	19	14	14	7	2	6	13	19	2
Chains and sprockets,	18	3	4		9	1	2	3	2	2	
Cogs, gears, &c.,	16	3	6	3	5			8	7	8	1
Fly wheels,	2										
Operating or repairing apparatus (electrical),		1	1								
Operating or repairing apparatus (not electrical),		1		1		1		1	1	2	
Ropes, cables and drums,	14		7	1	5		2		2	3	
Set screws, keys and bolts,	1		1							1	
Shafts and couplings,	2	3	4	1	1			3	1	4	

Unguarded or uncovered switches,											
All others,	2	1						1	2		
Elevators:											
Total,	62	27	35	22	48	23	4	35	38	42	2
Cable breaking,	10	6	7		1	1		3	4	5	
Cable unwinding,	4	4		2	7	2	1	2	2		
Cable, caught by,	6	4	6	6	13	7	1	16	18	12	1
Car, caught by,	5	3	5	8	10	9	1	5	6	10	
Car, struck by,	2	1	3		5				1	4	
Counterweight, struck by,			1	1	1			3	1	2	
Defective equipment,	1	1	1	1	1			1	1	5	
Entering or leaving car,	2		4		2	1			2	1	1
Fall of car,	18	3	4		3	1		2	2	3	
Fall of person,	8	3	1	2	2	1	1				
Falling objects,	4	1	3		1	1					
All others,	2	1		2	2			3	1		
Cranes, Hoisting Apparatus, &c.:											
Total,	168	19	24	1	16	1	3	9	4	8	
Cable catching person,	16	3	6		3		1	1	2	1	
Car striking person,	13		2				1	1			
Cleaning, oiling or repairing,	1	1	1	1	1				1	3	
Falling objects (other than load),	8	1	1		1			1			
Falls from,	11	2	1		2					1	
Load falling,	35	3	1		5			1		3	
Run over by,	2					1					
Struck by load or tackle (not falling),	73	8	9		3			4			
All others,	9	1	3		1		1	1	1		
Working Machines:											
Total,	227	121	151	170	233	162	34	536	333	317	35
Adjusting machine or work,	17	9	21	25	21	12	3	27	44	47	3
Breaking of machine or work,	19	7	9	2	1	2	2	8	8	4	
Cleaning,	3	3	10	17	36	4		16	17	62	
Emery wheels (bursting),								1	1		
Flying objects,	30	15	18	3	2	1	1	31	3	13	
Oiling,	4	3	9	3	6		1	9	1	6	1
Operating or feeding,	68	40	49	97	109	126	15	295	224	141	24
Repairing,	9	3	11	4	6		2	6	7	7	
Saws,	12	6	4	6	4	1	1	115	5	2	
Starting or stopping,	58	28	15	10	43	13	7	21	18	26	6
All others,	7	7	5	3	5	3	2	7	5	9	1

SUMMARY OF COMPENSABLE ACCIDENTS, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its remanufacture.	Paper and printing industries.	Textiles.	Laundries.
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	146	328	79	11	44	20	17	14	31	46	7
Corrosive Substances:											
Total,		8								2	
Electricity:											
Total,	14	6	10	2	1		1			1	1
Cutting or welding,											
Explosives:											
Total,	32	199	26		10	1	10		2	4	
Acetylene,			1								
Carbon dioxide,							2				
Compressed air,	3	3	1		1		1				
Dust,			3		1				2		
Dynamite, powder or nitro-glycerine,	18	161	12								
Gas,	7	18	6		3		1			2	
Gasoline,	4	4			2	1					
Manufacturing or storing,										1	
Transportation or handling,		13	3		3		6			1	
All others,											

Hot Substances or Flames: Total,	160	115	43	9	33	19	6	14	29	39	6
Asphalt, pitch or tar,	20	3			1	1			1		
Cutting or welding (not electrical),											
Flames,	17	26	6	1	5	4	1	2	1	4	1
Hot water,	26	29	10	8	13	8	3	8	9	24	2
Molten metal, explosion of,	2	1	1								
Molten metal or slag (all others),	13	12	4						2	1	
Other hot substances (scalds),	21	42	19		14	6	2	3	15	10	3
All others,	1	1	3						1		
Conflagration,		1						1			
Falling Objects. Total,	562	85	279	10	69	22	15	148	47	36	2
Rock and earth,	72	5	95		3	1		2	1	1	
Collapse of buildings or walls,	20	1	12		2			1			
Collapse of scaffolds or stagings,	91	5	6		1	1	1	2	3	1	
Collapse of piled up material,	35	4	16		4	1		22	7	4	
Fall of roof (mines),	17	1	23		1	1		1	2		
Objects dropped by other persons,	53	9	20		8	3		13	3	2	
Objects falling from trucks or vehicles (not loading or unloading),	32	7	17		2	4	3	8	6	3	
Objects falling from buildings, trestles or scaffolds,	206	42	73	9	34	10	9	57	20	19	1
All others,	36	11	17	1	14	1	2	42	5	6	1
Fall of Persons. Total,	1,150	240	223	87	244	77	115	193	101	177	28
From ladder,	156	23	16	8	23	6	10	11	9	25	5
From scaffolds or platforms,	256	41	37	6	14	8	6	20	9	19	
From vehicles,	142	24	22	5	63	4	38	42	9	6	7
From structures in course of erection,	154	5	2		1				1		
From structures (all others),	78	8	9	3	8	2	4	7	2	2	
From other elevations,	50	21	23	3	9	3	4	18	8	6	1
Into excavations,	24	5	4	1	1	1	2	1		1	
Into other openings,	52	18	14	2	9	12	2	12	8	11	
On level,	203	83	86	43	102	34	32	68	35	86	10
Stairways,	28	9	6	16	11	5	15	9	17	19	5
All others,	7	3	4		3	2	2	5	3	2	

SUMMARY OF COMPENSABLE ACCIDENTS, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its remanufacture.	Paper and printing industries.	Textiles.	Laundries.
Handling of Tools or Objects.											
Total,	1,046	297	547	74	349	126	127	431	147	151	18
Carrying or lifting objects (not loading or unloading),	472	134	210	26	153	48	51	139	64	73	6
Chipping or grinding,	24	4	17		1	2		2		2	
Handling of sharp objects,	73	20	148	16	38	20	21	36	18	14	5
Loading or unloading,	136	42	45	1	53	8	29	69	20	11	1
Tools in hands of injured person,	271	86	111	27	91	43	25	172	30	44	6
Tools in hands of fellow workmen,	53	10	14	3	11	5		12	5	7	
All others,	7	1	2	1	2		1	1			
Power Vehicles.											
Total,	348	115	215	8	161	24	52	115	54	26	10
Collisions,	10	2	4	1	9	2	3	2	4		2
Coupling or uncoupling cars,	25	4	9		2		1	7	1		1
Defective equipment,	2	1	1		1			1			
Derailment, replacing cars,	4	2	25		2	1	1	2	1		
Fell from, over or into,	28	16	22		6	3	2	15	6		
Improperly loaded ladles or cars,	2										
Loading or unloading material,	97	36	60	1	22	7	21	47	16	7	
Not on track,	72	24	15	5	29	5	14	16	14	7	2
Struck by car or engine,	85	26	67	1	28	5	10	17	8	4	5
Struck by overhead or side obstruction,	12	2	6		1			6	4	2	
Sudden starting or stopping,											
All others,	11	2	6		1	1		2			

Stepping on Sharp Objects.											
Total,	93	13	8	6	8	7	2	4	9	14	1
Nails,	87	12	5	5	6	5	2	4	6	9	1
All others,	6	1	3	1	2	2			3	5	
Running Into or Striking Against Objects.											
Total,	94	26	72	28	59	22	6	58	22	63	5
Poisonous Substances.											
Total,	7	1	4	3	1	2		2	1	5	
Miscellaneous.											
Total,	215	156	106	18	91	27	38	86	25	60	7
Acids and liquids,	15	62	10		2	5	3	3	2	8	1
Animals,	43	13	17		38	1	12	34	2	2	2
Asphyxiation or suffocation,	5	8	5		1	2	1	1	2	2	
Doors, windows or gates (exclusive of elevator gates),	14	10	11	7	11	5	5	1	3	18	
Drowning,	5				1		3			1	
Flying objects (not from machines, tools or explosives),	61	29	31	3	8	2	4	29	2	11	
Frost bites,	2	4	2			1		1		1	
Heat prostration,	3	1	3		3	1	1		3	1	1
Intentional violence,	4	1	5	1	2			1	1	4	
Lightning,	3	1	2		1						
All others,	60	27	20	7	24	10	9	16	10	12	3
Nature of Injury.											
Total,	4,184	1,455	1,787	459	1,298	522	420	1,653	833	979	118
Burns and scalds,	150	235	78	15	52	29	10	15	42	56	17
Crushes and bruises,	1,567	414	628	156	502	199	147	572	356	339	27
Cuts and lacerations,	711	225	515	126	274	108	87	585	195	214	16
Fractures, sprains and dislocations,	1,345	350	407	84	340	106	135	358	176	252	41
Hernia,	64	29	43	6	17	9	8	15	11	20	3
Blood poisoning,	109	40	38	37	51	38	13	53	17	49	10
Punctures,	94	21	31	18	16	10	3	12	11	21	1
Unclassified,	144	141	47	17	46	73	17	43	25	28	3
Loss of Parts.											
Total,	116	36	48	6	39	12	7	72	27	24	1
Eyes,	53	18	16	4	1	1	6	15	2	5	1
Arms,	9	3	5		1			1	2	2	
Hands,	7	8	4		15	5	1	14	10	11	

SUMMARY OF COMPENSABLE ACCIDENTS, 1918—Continued.

	Building and contracting.	Chemicals and allied products.	Clay, glass and stone products.	Clothing manufacture.	Food and kindred products.	Leather and rubber goods.	Liquors and beverages.	Lumber and its remanufacture.	Paper and printing industries.	Textiles.	Laundries.
Fingers,	17	2	10	2	14	5	----------	40	12	6	----------
Legs,	10	2	----------	----------	1	----------	----------	----------	----------	----------	----------
Feet,	13	3	6	----------	4	1	----------	1	----------	----------	----------
Toes,	7	----------	7	----------	3	----------	----------	1	1	----------	----------
Social Condition.											
Total,	4,184	1,455	1,787	459	1,298	522	420	1,653	833	979	118
Married,	2,438	897	1,160	172	711	302	299	946	380	468	61
Single,	1,171	443	578	237	443	184	95	539	381	414	45
Not given,	575	115	109	50	144	36	26	168	72	97	12
Compensation.											
Amount paid, disability cases,	$393,967	$102,677	$109,053	$18,023	$79,818	$29,366	$27,868	$94,839	$44,731	$55,470	$9,294
Fatal cases, amount paid and awarded,	405,283	378,202	95,443	2,500	65,086	16,256	46,951	22,644	41,049	19,451	----------
Total,	$799,250	$480,879	$204,496	$20,523	$145,904	$45,622	$74,819	$117,483	$85,780	$74,921	$9,294
Degree.											
Fatal,	180	156	33	1	29	8	16	18	21	13	----------
Serious,	4,004	1,299	1,754	458	1,269	514	404	1,635	812	966	118
Sex.											
Male,	4,174	1,421	1,762	327	1,230	497	418	1,621	737	745	78
Female,	10	34	25	132	68	35	2	32	96	234	40

Number of Dependents.											
Total,	3,083	1,370	1,844	223	896	410	412	1,094	400	434	49
Number of dependents, fatal cases,	169	146	47	----------	29	9	19	2	16	10	----------
Number of dependents, disability cases,	2,914	1,224	1,797	223	867	401	393	1,692	384	424	49
Total number of accidents,	4,184	1,455	1,787	459	1,298	522	420	1,653	833	979	118

SUMMARY OF COMPENSABLE ACCIDENTS, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and warehouses.	Municipalities.	Total.	Fatal accidents, by cause.
Machinery.											
Total,	5,851	1,137	537	11	573	37	204	60	37	11,632	289
Boilers and Steam Pipes:											
Total,	24	12	10		2		1		2	61	17
Boiler explosions,	24	12	10		2		1		2	61	17
Prime Movers—Stationary Engines and Motors:											
Total,	1	1	3							9	1
Sudden starting or stopping,	1	1	3							9	1
Power and Transmission Apparatus:											
Total,	414	293	38		38	1	9	3	5	1,092	43
Belts and pulleys,	127	44	6		8		2	1	2	307	13
Chains and sprockets,	129	59	7		3		3	1	1	247	8
Cogs, gears, &c.,	76	30	7		11	1	3		2	187	5
Fly wheels,	4	4								10	2
Operating or repairing apparatus (electrical),	11	5	2		1					21	1
Operating or repairing apparatus (not electrical),	11	2	6							26	
Ropes, cables and drums,	21	125	3		10		1			194	5
Set screws, keys and bolts,	7	7	1		1			1		20	
Shafts and couplings,	9	8	3		2					41	8

Unguarded or uncovered switches,	1	2								3		
All others,	18	7	3		2					36	1	
Elevators:												
Total,	382	140	74	2	50	19	47	17	5	1,074	37	
Cable breaking,	46	11	8		4	1	3	1		111	2	
Cable unwinding,	16	2	10	1	1	1	7	1		63	2	
Cable, caught by,	122	30	14		17	5	6	1	2	287	2	
Car, caught by,	38	16	8	1	13	8	16	7		169	26	
Car, struck by,	12	12	2		4	1	1	2		50	2	
Counterweight, struck by,	9	4	2				1		2	27	1	
Defective equipment,	15	3	1		1					32	1	
Entering or leaving car,	15	3	4		4	2	6			47	1	
Fall of car,	61	41	20		3	1	1	3	1	167	2	
Fall of person,	19	12	2		2		3	1		57	2	
Falling objects,	15	2	2							29	1	
All others,	14	4	1		1		3	1		35	1	
Cranes, Hoisting Apparatus, &c.:												
Total,	1,438	102	100		114	1	4	3	1	2,016	127	
Cable catching person,	227	42	10		11					323	5	
Car striking person,	115	6	4		13		2			157	24	
Cleaning, oiling or repairing,	10		1		1					21	3	
Falling objects (other than load),	102	4	9		8		1			136	8	
Falls from,	59	3	3		8			1		91	8	
Load falling,	346	12	23		25					454	37	
Run over by,	17	1			2	1		1		25	3	
Struck by load or tackle (not falling),	511	25	47		44		1	1	1	727	35	
All others,	51	9	3		2					82	4	
Working Machines:												
Total,	3,592	589	312	9	369	16	143	37	24	7,410	64	
Adjusting machine or work,	535	66	37	1	38	1	6	1	2	916	4	
Breaking of machine or work,	153	37	17		16		1	1	2	279	9	
Cleaning,	128	15	7		9	2	4		1	334	2	
Emery wheels (bursting),	23				1					26	2	
Flying objects,	553	210	69		40		2		6	997	12	
Oiling,	70	24	3		3		1		2	146	5	
Operating or feeding,	1,620	125	96	5	163	9	35	3	1	3,248	14	
Repairing,	93	31	19		5	1				204	3	
Saws,	70	16	4	1	27		2			276	2	
Starting or stopping,	265	43	55	2	59	3	90	32	7	801	1	
All others,	82	32	5		5		2		3	183	10	

SUMMARY OF COMPENSABLE ACCIDENTS, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and warehouses.	Municipalities.	Total.	Fatal accidents, by cause.
Explosives, Electricity, Fires, Hot or Corrosive Substances.											
Total,	2,267	1,329	348	3	103	38	18	8	28	4,885	448
Corrosive Substances:											
Total,	10	4			2				1	27	
Electricity:											
Total,	121	120	129		10	1	1		3	421	93
Cutting or welding,	1		2							3	
Explosives:											
Total,	254	987	39	2	22	5	8	3	14	1,618	267
Acetylene,	6				1					8	
Carbon dioxide,	4	15			1	1				23	
Compressed air,	7	5	2		1					24	2
Dust,	18	3	1							28	4
Dynamite, powder or nitro-glycerine,	45	473	4		3				3	719	196
Gas,	75	448	21	1	5	2	1		8	598	46
Gasoline,	19	10	9	1	5		5	3	1	61	4
Manufacturing or storing,	2									3	
Transportation or handling,		2					1			4	1
All others,	78	31	2		6	2	1		2	148	14

Hot Substances or Flames: Total,	1,882	218	180	1	69	32	9	5	10	2,819	88
Asphalt, pitch or tar,	10		1		4				1	42	
Cutting or welding (not electrical),	6		3							9	1
Flames,	196	60	36		19	9	5	2	4	399	31
Hot water,	190	84	77	1	13	13	3	1	1	523	17
Molten metal, explosion of,	111	5	2		2					124	6
Molten metal or slag (all others),	916	9	18		10				1	986	20
Other hot substances (scalds),	380	50	41		20	9	1	2	2	610	11
All others,	69	9	1		1					86	
Conflagration,	4	1	1			1			1	10	2
Falling Objects. Total,	2,768	7,501	414	4	384	9	75	28	42	12,500	725
Rock and earth,											
Collapse of buildings or walls,	56	1,374	13	1	13		6	1	12	1,656	56
Collapse of scaffolds or stagings,	7	8	5		3	1	3		12	75	20
Collapse of piled up material,	47	22	12		27				4	223	8
Fall of roof (mines),	286	26	29		33		7	4	2	480	14
Objects dropped by other persons,	56	5,452	11		11		4			5,580	536
Objects falling from trucks or vehicles (not loading or unloading),	254	55	54		48		4	1		527	8
Objects falling from buildings, trestles or scaffolds,	343	93	71	1	28		9	6	2	635	11
All others,	1,333	318	176	1	189	5	30	9	8	2,549	60
	386	153	43	1	32	3	12	7	2	775	12
Fall of Persons. Total,	1,882	1,410	728	14	705	124	399	104	159	8,160	207
From ladder,	188	47	68	2	86	9	40	5	9	746	20
From scaffolds or platforms,	206	103	53	1	103	5	22	14	7	930	29
From vehicles,	66	90	65	1	110	4	130	18	29	875	22
From structures in course of erection,	20	13	3		27		3		1	230	22
From structures (all others),	65	27	25		22	5	12	3	8	290	16
From other elevations,	159	85	79	1	42	4	21	7	7	551	23
Into excavations,	43	14	7		7				5	116	3
Into other openings,	151	86	81	1	39	8	12	15	5	538	39
On level,	872	881	299	5	224	52	126	31	65	3,337	21
Stairways,	68	32	32	1	31	33	30	10	19	396	8
All others,	44	32	16	2	14	4	3	1	4	151	4

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and warehouses.	Municipalities.	Total.	Fatal accidents, by cause.
Handling of Tools or Objects.											
Total,	6,270	4,161	1,436	20	670	113	322	109	63	16,470	61
Carrying or lifting objects (not loading or unloading),	3,159	1,918	561	8	282	40	134	56	28	7,572	21
Chipping or grinding,	263	197	39		10				2	563	
Handling of sharp objects,	309	167	39	1	51	34	42	4	3	1,059	7
Loading or unloading,	455	350	168	3	94	3	52	33	9	1,582	15
Tools in hands of injured person,	1,750	1,400	529	5	188	34	83	13	17	4,925	15
Tools in hands of fellow workmen,	312	117	94	3	40		10	2	4	702	3
All others,	22	15	6		5	2	1	1		67	
Power Vehicles.											
Total,	1,433	5,692	1,082	6	265	8	171	63	73	9,855	646
Collisions,	57	216	124		11		10	7	7	471	44
Coupling or uncoupling cars,	184	669	69		14		4	1	6	997	31
Defective equipment,	6	12	5							29	3
Derailment, replacing cars,	34	917	40		7		4		1	1,041	52
Fell from, over or into,	175	384	288	2	30	1	11	5	14	1,008	78
Improperly loaded ladles or cars,	5	7	2	1	1					17	1
Loading or unloading material,	405	679	156		62	1	21	17	4	1,660	17
Not on track,	129	136	82	1	63	3	74	17	32	746	36
Struck by car or engine,	367	2,011	254	1	65	3	15	12	8	3,016	340
Struck by overhead or side obstruction,	46	506	44	1	4			1		634	38
Sudden starting or stopping,	4	9	10							23	1
All others,	28	146	8		2		2	3	1	213	5

Stepping on Sharp Objects.											
Total,	95	103	21	1	18	3	20	4	2	432	2
Nails,	59	90	18	1	16	2	14	4	1	347	2
All others,	36	13	3		2	1	6		1	85	
Total,	640	491	122		102	21	42	12	14	1,899	15
Poisonous Substances.											
Total,	25	22	7		12	2	3		4	101	4
Miscellaneous.											
Total,	991	1,312	290	4	230	26	133	32	79	3,956	210
Acids and liquids,	79	66	15		10		4		2	287	8
Animals,	30	467	32	1	72	3	55	16	20	860	25
Asphyxiation or suffocation,	36	28	4	1	4	2	1		2	105	45
Doors, windows or gates (exclusive of elevator gates),	141	139	57		21	3	19	5	3	473	4
Drowning,		6	5		5				2	28	24
Flying objects (not from machines, tools or explosives),	448	427	92		61		9	2	12	1,231	17
Frost bites,	5	3	2		2		5			28	
Heat prostration,	19	3	4		4	1	1		1	50	18
Intentional violence,	27	8	22		10	7	6		28	127	17
Lightning,	4	6	3		2	1	3			26	2
All others,	202	159	54	2	69	9	30	9	9	711	50
Nature of Injury.											
Total,	22,222	23,161	4,985	63	3,092	381	1,337	420	501	60,920	2,607
Burns and scalds,	2,613	953	353	4	112	42	15	8	20	4,849	
Crushes and bruises,	7,909	10,263	2,059	27	1,004	96	503	162	169	27,099	
Cuts and lacerations,	5,379	5,378	889	8	604	83	217	44	80	15,738	
Fractures, sprains and dislocations,	4,740	5,338	1,363	21	1,022	107	499	160	189	17,033	
Hernia,	400	264	99		68	15	26	9	9	1,115	
Blood poisoning,	570	319	61		128	22	45	14	14	1,628	
Punctures,	260	244	44	2	43	3	24	2	1	861	
Unclassified,	351	402	117	1	111	13	58	21	19	1,627	
Loss of Parts.											
Total,	723	516	123	1	80	2	21	4	14	1,875	
Eyes,	253	223	50		26		5	2	8	705	
Arms,	31	19	5		4		1			83	
Hands,	91	61	9	1	17		4	2	1	231	

SUMMARY OF COMPENSABLE ACCIDENTS, 1918—Continued.

	Metals and metal products.	Mines and quarries.	Public service.	Tobacco and its products.	Miscellaneous.	Hotels and restaurants.	Mercantile establishments.	Jobbers and warehouses.	Municipalities.	Total.	Fatal accidents, by cause.
Fingers,	229	84	12	----------	21	1	10	----------	1	466	----------
Legs,	29	49	29	----------	4	1	3	----------	4	132	----------
Feet,	48	66	16	----------	4	----------	----------	----------	----------	162	----------
Toes,	29	11	2	----------	4	----------	1	----------	----------	63	----------
Social Condition.											
Total,	22,222	23,161	4,985	63	3,092	381	1,387	420	501	69,920	----------
Married,	13,316	14,563	3,320	33	1,608	184	654	255	368	42,165	----------
Single,	7,163	7,725	1,389	24	962	138	518	122	86	22,657	----------
Not given,	1,743	873	276	6	432	59	215	43	47	5,098	----------
Compensation.											
Amount paid, disability cases,	$1,455,173	$1,621,529	$359,590	$2,954	$215,899	$14,814	$72,997	$22,033	$50,102	$4,780,197	----------
Fatal cases, amount paid and awarded,	1,213,108	3,504,220	570,532	3,794	268,053	18,176	52,890	30,645	104,435	6,859,718	----------
Total,	$2,668,281	$5,125,749	$930,122	$6,748	$483,952	$32,990	$125,887	$52,678	$154,537	11,639,915	----------
Degree.											
Fatal,	492	1,167	259	1	113	11	26	15	48	2,607	----------
Serious,	21,730	21,994	4,726	62	2,979	370	1,361	405	453	67,313	----------
Sex.											
Male,	22,010	23,156	4,920	53	2,977	300	1,274	417	486	68,603	----------
Female,	212	5	65	10	115	81	113	3	15	1,317	----------

Number of Dependents.											
Total,	21,289	15,769	4,398	40	2,054	171	631	246	325	55,129	
Number of dependents, fatal cases,	614	1,580	200	1	100	10	17	8	30	3,007	
Number of dependents, disability cases,	20,675	14,180	4,198	39	1,954	161	614	238	295	52,122	
Total number of accidents,	22,222	23,161	4,985	63	3,092	381	1,387	420	501	60,920	